SMOKE ON SELF-HORIZONS: A TEST OF SELF-REVISION THEORY

By

PATRICK JAMES CARROLL

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2004

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Abstract of Dissertation Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy

SMOKE ON SELF-HORIZONS: A TEST OF SELF-REVISION THEORY
By

Patrick J. Carroll

August 2004

Chair: James A. Shepperd
Major Department: Psychology

The purpose of my set of studies was to provide an empirical test of the following

propositions of Self-Revision Theory. Proposition one is that threats that elaborate the

prospect of the undesired self as more credible than the desired self will have the greatest

potential to induce change in desired selves. Proposition two is that the effect of threats

on desired selves is mediated through personal expectations. Proposition three is that

bracing for loss represents the crucial mechanism that drives the process of change in

possible selves through expectations and anxiety. Two studies tested the foregoing

propositions. Study 1 explored the predictors of change in a field setting using the real-

world criterion of possible career selves and expectations of upper division psychology

students. Study 2 tested the effect of threat elaboration on the process of change in self-

views, and the pathways of effects that drive change. Taken together, both studies

provided support for proposition one of Self-Revision Theory and partial support for the

second proposition. Self-Revision occurred in response to threats that elaborated the

meaning of an unfavorable discrepancy between present and desired self into a prospect

of the undesired self as unlikely. However, personal expectations only partially not fully mediated the effect of threat on desired selves. Moreover, neither study provided support for the third proposition. Anxiety appeared to play no role in mediating the effect of threat on desired selves.

Most people have had the unpleasant experience of facing something that or someone who suggests they will never reach the end of a personal rainbow. These experiences place the person in boxes of potential. Indeed, most people likely realize that there are such things as limits to human potential, but few things feels worse than coming face to face with limits to personal potential. The general question motivating my set of studies is how people respond to these threats to possible self-views. For instance, what happens when the organic chemistry professor tells the young man who aspires to become a physician that he has failed the course (for the second time)?

The primary purpose of my study was to provide answers to questions regarding the process of change in possible self-views. I attempt to weave diverse strands of theory and evidence into a cogent tapestry of change in self-views. I propose a model of change in possible selves that can be distilled into four basic propositions. These propositions focus on the elaborated construal of threat; and the mental links among threat, expectancies, and possible selves. First, I unpack the constructs of possible selves, threat, and change. Next, I unveil the central propositions of a new theory of self-revision.

Possible and Desired Selves

Markus and Nurius (1986) define possible selves as the mental representations of hopes, fears, goals, and threats that give self-relevant form, meaning, organization, and directionto these (motivational) dynamics. Stated otherwise, possible selves symbolize

everything people hope and fear they may become. These images harness the energy of general motives into a specific target self. In this perspective, motivational constructs do not impact behavior through mysterious unconscious pathways. Rather, motivational forces find expression in elaborated possible selves. For example, a general need to achieve has no direction until it becomes focused on the concrete desired self of becoming a doctor. In the same vein, goals do not directly impact behavior. Some theorists assert that the crucial self-regulatory feature of a goal stems from the elaboration of self in a desired end state. As a consequence of their self-regulatory importance people construct possible selves that are not only desirable but also realistic. Desired selves are a subset of possible selves that represent both what people would like to become and could realistically become (Schlenker, 1980). People invest motivational resources into the symbolic constructions of desired selves. Over time, undesired and desired selves become elaborated and linked with increasingly specific images of the self, in a given end state. For example, a premed student constructs a vivid image of what they might look like as a doctor. This vision includes specific images of owning their own practice, healing crippled children, and having the golden hand that everyone shakes at parties. Of course, the desired images of becoming a physician are balanced by the sobering images of not becoming a doctor. It is worth noting that the undesired self is not tantamount to the absence of the desired self. A great deal of evidence suggests that the undesired self constitutes a unique psychological construct that engenders cognitive, affective, and even bodily effects independent of the desired self it offsets (Markus & Ruvolo, 1989; Ruvolo & Markus, 1992). These undesired images may include vivid depictions of the person behind a desk in a dead-end clerical job with no prospect for

advancement. Despite their unique properties, desired and undesired selves do not in isolation. Desired and undesired selves work together, in lockstep, to prepare the person for the realm of selves that they could realistically assume in a given domain of self-definition.

Although desired and undesired selves can both provide an interpretive context (or standard) for present self-evaluation, and can serve as incentives to be approached or avoided (Markus & Nurius, 1986), my focus is on the latter function. Specifically, I explore the role of desired selves as incentives that are fostered, managed, and pursued for their own sake; and not merely as interpretive backdrops for present self-evaluation. As incentives, desired organize mental and behavioral experience around their pursuit.

Proposition 1: The Power of Elaborated Threats

Periodically, desired selves come under threat. Threat refers to any informational feedback that calls into question or casts doubt on the validity of a self-view. In the case of the aspiring physician, these threats may range from failing a spot pop quiz to failing an entire class. Of course, the impact of any given threat may depend on the life context in which it occurs. Thus, the impact of failing a spot pop quiz on the "physician" possible self may be augmented by the ongoing threat of repeated discouragement by significant others (parents, teachers, counselors, etc.) regarding the decision to pursue a career in medicine. Here, I introduce the variable of threat elaboration as an equally powerful determinant of the ultimate impact of a threat on self-views. The construct of threat elaboration can be organized on a continuum of elaboration anchored at opposite poles by unelaborated and elaborated threats. Despite the continuous nature of the variable, I present the two extreme types of threat elaboration as a dichotomy for illustrative

purposes. I propose that threats of greater elaboration also have greater potential to elicit changes in desired self-views.

Threat elaboration.

Unelaborated threat occurs when the source of the threat simply presents evidence regarding the present self that is discrepant with the desired self. The source of the threat, however, does not actually elaborate the logical implications of that evidential discrepancy between the present and desired self for the ultimate possibility of the desired self. For example, the organic chemistry professor who informs the young man that he has failed the course for the second time, delivers an unelaborated threat. The delivery of the student's grade is discrepant with the grades the student needs to achieve their desired self. Of course, the delivery of this grade may not elaborate any implications that the grade holds for the possibility of a career in medicine. For example, the professor may harbor doubts about the student's potential in medical science, based on the abysmal performance in the course. Despite these doubts, the professor may feel that it would be inappropriate to elaborate the implications of the course performance for the student's dream of becoming a physician. Unlike the unelaborated threat, the elaborated threat does not merely present threatening evidence. The elaborated threat occurs when the threat source provides the same negative evidence but also further elaborates the meaning of that evidence for the ultimate possibility of reaching the desired self.

Of the two forms, elaborated threats delivered by a credible social agent (e.g. faculty member) tend to be harder to dismiss. To be sure, unelaborated threats imposed by social partners can and do impact the desired selves they target. So, for example, it would seem likely that the pre-med student that learns he has failed a prerequisite course

for the second time would not have to be told that medical school may not be in the cards. The pre-med student may spontaneously elaborate the negative implications of the unfavorable discrepancy between present and desired selves. Ironically, however, people rarely elaborate the meaning of threatening feedback on their own. As such, unelaborated threats to future possibility rarely suffice. People appear incredibly willing and able to deflect, spin, or downright dismiss sensible unelaborated threats to future possibility (Shepperd, 1993). Shepperd (1993) provided compelling evidence of the motivated tendency for people to dismiss or re-interpret threats to protect desired self-views. Specifically, the results of 3 studies showed that college students with lower SAT scores regarded the aptitude test as a poor predictor of their own college performance. Interestingly enough, low scorers did not afford the same explanatory courtesy to the self-views of other low scorers. Specifically, low scorers were perfectly willing to use the low SAT scores to make admissions decisions, in the case of others. Even more telling, the low scorers relative to high scorers inflated their scores, reporting a score that was higher than the score they actually received. To summarize, the low scorers displayed motivated biases in their construal and presentation of their own poor performance record. How can seemingly competent young adults distort evidence to the point of falsehood?

The knowledge-avoidance model of self-deception provides some insight into the enormous protective capacities of the motivated processor against threat (Greenwald, 1980). Greenwald borrows from multilevel models of perceptual processing (Craik & Lockhart, 1972) to assert that every piece of evidence can be analyzed at increasingly deeper levels of abstraction. Specifically, the young man can understand the failing

grade (at the shallow lexical level) as an evaluative category of course performance. At the deeper levels of processing, the logical implications of the new input for the stored conception of becoming a physician become elaborated. It is worth noting that the individual perceiver typically has primary control over the level of analysis that informational input is processed. This enormous leeway in depth of processing sheds some light on why people are incredibly adept at disarming unelaborated threats. The motivated processor uses the elaboration freedom to fast-track desired input to deeper representational levels, while weeding the less desirable input at more shallow levels.

This point is important because it underscores the fact that people *can* elaborate the meaning of an unelaborated discrepancy between present and desired self. As stated above, people can elaborate the meaning of threatening input all the way to the stored cognitive structure of the desired self. People just don't *want* to elaborate the prospect of the desired self as unlikely. For example, the premed student can interpret the failing grade in organic chemistry in many ways, other than as a premonition of his unlikely future as a physician. Instead, the student can interpret the disparity between his failing grade and the desired future as a temporary difference that can and will be overcome, as the environmental conditions that produced it change. So, for example, the student could say that the failing grade was due to the unfairness of the teacher, or an inability to focus due to family problems. Indeed, the student can even protect the desired physician self by explaining away the unelaborated failing grade as just plain "bad luck." With an elaborated threat, that sort of motivated inventiveness and ability to protect the desired self is vastly restricted. Elaboration of the logical implications of the failing grade places the threat on the same level of abstraction as the stored desired self. In so doing, the

elaborated threat preempts the motivated derailment of that input from reaching the targeted physician structure stored at deeper levels of abstraction. The elaborated threat suggests that the undesired prospect of not becoming a physician is more likely than the discredited possibility of becoming a physician. The elaborated threat embeds vivid details of the consequences of not making it in the prospect of failing to become a physician. For example, the professor may provide the following elaborated threat, "I think you may want to reconsider if medical school is the right for you. In my opinion, I don't think you would have a realistic chance of getting into a medical school. What I'm afraid is more likely to happen is that you're going to end up losing time and money and in the end have nothing to show for it and no prospects for a job with a decent income."

Ingredients of elaborated threat.

To summarize, I'd like to propose a recipe for elaborated threats that calls for three ingredients to be mixed in the following order: (1) relative discrepancy, (2) discreditation of the desired self, and (3) accreditation of the undesired self. All of these ingredients represent necessary conditions of fully elaborated threat. Without one, the threat is not fully elaborated and self-revision is unlikely to occur. The final ingredient is both necessary and sufficient. Table 1 outlines the recipe of threat elaboration.

Table 1-1. Recipe of Threat Elaboration

	Ingredients of Threat		
THREAT ELABORATION	Relative Discrepancy	Discreditation of the desired self	Accreditation of the undesired self
Unelaborated	*	X	X
Partially Elaborated	*	*	X
Fully Elaborated	*	*	*

* = presence of the condition specified in the column; X = absence of the condition specified in the column.

The first ingredient of elaborated threat is *the creation of a relative discrepancy*. Specifically, the elaborated threat preempts opportunities for motivated interpretation by first pointing out the disparity between present and desired future selves. Research on processes governing change in mental structures requires that a comparative context first be set between the existing mental structure and the relevant input (Albarracin, Wallace, & Glasman, 2003). Some theorists propose a mental contrasting mode of self-regulation that involves creating a relational contrast between impeding reality and the epresentation of a desired end state (Oettingen, Pak, & Schnetter, 2001). Thus, the first job of the threatening party is to ensure simultaneous awareness of the possible self, the challenging input, and the discrepancy between these two items.

However, the threats must go beyond the mere creation of a discrepancy between the present and desired self. Indeed, many unelaborated threats satisfy this first condition to produce emotional reactions, yet never lead to change in self-views. As Collins (1996) asserts, relative discrepancies (favorable or unfavorable) are still raw data that must be construed in order to have meaning. In the context of self threat, real discrepancies between present and future conditions can still be logically dismissed as meaningless and temporary in order to preserve the desired self image.

I propose that threat must add two additional ingredients to the discrepancy ingredient in order to be considered fully elaborated. The second ingredient of elaborated threat is *the discreditation of the desired self.* The elaborated threat construes the discrepancy between present self and desired self into pessimistic prognosis of the attainability of the desired self. The threat presents insurmountable evidence of the

unattainability of the desired self in support of the pessimistic forecast. For instance, the faculty member not only points out a disparity between the student's current qualifications and the qualifications required to become a doctor, but also construes the meaning of that difference into a negative forecast of the likelihood of resolving that difference. Although the discreditation of the desired possibility would seem to qualify as a case of maximum elaboration, it is not.

The threat must go beyond the discrepancy (ingredient 1) and the discreditation of the desired self (ingredient 2) to achieve full elaboration. Indeed, some unelaborated threats include the second condition, and still do not have the impact on self-views of an elaborated threat. For illustrative purposes, I will return to the case of the organic chemistry professor. For the sake of argument, let us assume that the professor does indeed feel obligated to voice their concerns in order to spare the student further failure and humiliation. The professor may reason that he can steer the student toward more realistic career horizons by making it clear, in no uncertain terms, that the student is unfit for medical school. The professor may be befuddled on later learning that the advice, although emotionally discouraging to the student, somehow did not suffice to prompt change in the student's career ambitions. The insufficient impact of the threat makes sense when one takes the viewpoint that perceivers, like the scientist, develops theories to explain themselves and the world around them (Epstein, 1973).

Like the scientific theory, naïve theories are not expected (nor created) to be perfect models of truths. As such, the naïve theory is not assessed merely on the absolute metric of predictive success or failure. Naïve theories, like scientific theories, are assessed relative to other competing theories. As such, a theory may be retained by default despite

occasional predictive failures so long as the weight of relative evidence still tips in its favor.

In line with Epstein (1973), I propose that the desired selves can be considered naïve theories of how the self relates to the future. Like past and present self theories, desired selves may survive discreditation using a biased search strategy to reinstate their credibility. Specifically, a vast amount of research suggests that the motivated perceiver uses a confirmatory search strategies to mold incoming evidence to fit a priori hypotheses (Greenwald, 1980; Kunda, 1990). These motivated search strategies select hypothesis-consistent evidence, and filter out hypothesis-inconsistent information. These biased search strategies would play a vital role in the re-instatement of the discredited desired self.

In fact, some research suggests that self-relevant threats to a desired self often galvanize, rather than suppress the motivated recruitment of positive self-conceptions to counteract the initial flood of negative self-conceptions (Markus & Kunda, 1986). Indeed, this motivated recruitment process may leave the threatened self-view stronger than it was before discreditation (Markus & Kunda, 1986). So, for example, the premed student may respond to the threat by generating all of the reasons why he should hold fast onto rather than release the discredited physician self. This aggressive recruitment of evidential support may actually strengthen and restore the discredited physician's self.

In sum, the desired self may encounter discreditations to its hard-core assumptions. Ultimately, however, the logically sound criticism must suggest an alternative theory that provides a relatively better fit with available evidence (failing grade) in order to overturn the threatened theory (desired self). If not, the confirmatory search strategy will

inevitably shore up enough positive support to reinstate the credibility of discredited desired selves.

The final ingredient required for a threat to be considered fully elaborated is *the accreditation of the undesired self*. As mentioned before, elaborated threats advance the alternative undesired self, thereby preempting any motivated reconstrual or interpretation of the threat to the desired self. Thus, elaborated threats not only call into question the existing possible self, but also deliberately suggest alternative possible selves. In this sense, the elaborated threat removes the desired self, and substitutes an undesired self theory. Like the lock broken off in the key hole, the undesired self seals the door to the desired future. It is interesting that people rarely encounter elaborated threats. The paucity of elaborated threats may occur for at least three reasons. First, possible selves have no correspondence in physical reality. Our social partners often do not have easy access to our possible selves. Second, the rules of social engagement state that people accept the tentative faces of others in return for mutual acceptance of their own tentative faces (Goffman, 1959). In other words, I will nod and smile when you say you want to become a doctor, and you, in return, nod and smile when I say I want to become a trapeze artist. In essence, the motivation to respect the possible-selves of others can be conceptualized as the reciprocal concessions norm in the domain of possible self management.

Third, elaborated threats involve mental work and commitment. The elaborated threat requires the precise mixing of three ingredients. Thus, the first job of the threatening party is to ensure simultaneous awareness of the possible self, the challenging input, and the discrepancy between these two items. Of course, elaborated threats also

involve the logical elaboration of the immediate threat into the ultimate probability (expectancy) of fulfilling the potential self. Most likely, this final reason presents the biggest roadblock to full elaboration of a threat. The logical elaboration of challenging evidence for a stored mental structure is very hard work. Gilbert (1991) has consistently demonstrated that people have enough trouble challenging their own propositions without challenging propositions for someone else. Apparently, undoing a proposition is much more difficult than comprehending that proposition. To summarize, three factors (cognitive perspective, interaction goals, and limited mental resources) ensure that fully elaborated threats occur infrequently, relative to the unelaborated threat.

Of course, occasions do arise in which elaborated threats occur. For example, a conscientious faculty member may have to sit down a bubbling undergraduate student who has failed his course for the second time, to tell him that his dream of admission to a good medical school is not in the cards. In addition, the faculty member may suggest that the alternative scenario, that the only thing the student will acquire if he continues to pursue a medical career is rejection letters. Specifically, the faculty member may elaborate the negative self-relevant scenario of not making it into medical school into the threat to the possibility of making it. This vision of prospective failure likely will include emotionally vivid details of the consequences of failure that the student was unprepared for (e.g., accruing debt, repeated failure, missing other viable opportunities, etc.). Elaborated threats confront the person with the unpleasant choice of suffering the consequences of persevering against insurmountable odds, or reinvesting his future in a more secure possibility. In the context of elaborated threat, the potential for change in possible selves is great.

Proposition 2: Mediation Model of the Pathways of Change

The future holds an infinite number of possible outcomes, such that people can never know with absolute certainty what their future holds. However, survival demands that people have at least some response to life's uncertainties. The best response is to anticipate and be prepared for uncertainty. Preparedness is an adaptive goal state of readiness to respond to uncertain outcomes (Carroll, Dockery, & Shepperd, 2003). It can involve being equipped for setbacks should they occur, and also a readiness to capitalize on opportunity should it knock.

I propose that the utility of possible selves ultimately boils down to the extent to which possible selves effectively serve preparedness. Possible selves extend self-regulation beyond the realm of "what is" and into the realm of "what could be." A desired self serves preparedness to the extent that it maps the self onto, and prepares the self for, a world that actually does emerge. Effective possible selves steer behavior toward the pursuit of accessible environmental opportunities and away from threat in a world of uncertainty. So, the physician's self steers the person toward the objectively accessible career in medicine, and away from the countervailing possibility of living at home. However desirable, a possible self tailored to a world that will never emerge leaves the person unprepared to navigate the world (reality) that actually does emerge. The doctor possible self becomes ineffective if the structure of the local environment shifts such that *access* to the desired self is shut off, or vastly diminished. Readiness for life's uncertainties requires the ability to disengage from inaccessible possible selves. To respond to life's uncertainties, people have had to acquire a special sensitivity and responsiveness to environmental feedback (e.g. family, organization, society) signifying fluctuations in the accessibility of a possible self. Threats represent one source of

feedback that people closely attend to, and use to make decisions to maintain or change their possible selves.

It is worth noting that the translation of threat into change in a desired self image could follow at least two potential pathways. First, sufficient threat to a possible self may provoke a direct reflex of change. This potential pathway would characterize a state of the world in which the premed student promptly and permanently accepts the professor's threat without question. Most likely, however, mechanisms have evolved to discriminate the credible from the incredible threat. As mentioned before, threats are probabilistic assertions that (like the possible selves they target) may or may not map onto external reality. Consistent with this line of reasoning, the pathway of effects may conform to a mediation model of change in which the impact of threat on the possible self is mediated through some intervening variable designed to regulate the response to threat.

The mediation model proposes that effective regulation requires some subjective index (or check on) the ongoing accessibility of the possible self in response to challenging input. These subjective values would of course need to be sensitive and responsive to changes in the accessibility of the possible self. These values would need to be resilient enough to assimilate minor fluctuations in the accessibility value, but at the same time flexible enough to accommodate substantive fluctuations in accessibility. The mediation model proposed here suggests that all of the foregoing qualities can be found in the faculty of intuitive expectancies. Indeed, expectancies serve as the mental screen through which threats impact possible selves.

Intriguing evidence for the mediation role of subjective expectancies in regulating the link between threat and possible selves comes from Gregory's seminal research on the

promotive impact of self-relevant scenarios on compliance behavior (Gregory, Cialdini, & Carpenter, 1982; Gregory, Burroughs, & Ainslie, 1985). In particular, the results obtained across two studies converged on the finding that when people were asked to imagine detailed negative self-relevant scenarios, they were more likely to endorse attitudinal positions that would prevent the occurrence of the imagined negative event (Gregory et al., 1985). More importantly, these attitudes spawned consistent intentions to act. Germane to the present purpose, the impact of the scenario on scenario-consistent attitudes and intentions was mediated entirely through expectancies.

In Gregory's studies (1982; 1985), imagining oneself involved in an automobile accident *first* elevated subjective likelihood estimates of that negative outcome. Next, the elevated expectancies promoted cognitions to prevent the occurrence of the imagined accident event. Finally, these cognitions generated from the excited protection motivation, in turn, predicted behavioral intent to prevent the imagined accident outcome.

I propose that elaborated threats constitute nothing more than highly impactful self-relevant scenarios. As such, the impact of threat on selves follows the same general pathway as the impact of any self-relevant scenario on self-relevant cognitions-- through expectancies. As mentioned earlier, the elaborated threat not only casts doubt on the probability of the desired self, but deliberately suggests the countervailing undesired self. Specifically, the undesired self of not making it into medical school is entwined with a threat to the possibility of making it. Change occurs when the person perceives that the probability of the undesired self exceeds the probability of the desired self. The intentional structure sustaining the possible self is terminated once the undesired self replaces the desired self as the more likely possibility. In this sense, the desired-self

theory is not disproven, but simply collapsed under the weight of subjectively available evidence. Expectancy guides the decision to abandon or revive a lost possible self.

Proposition 3: Bracing for Self-Loss as the Process of Change

What is the psychological mechanism that drives the flexible adjustment of the expectations that support possible selves? The passionate intensity of the response to threat suggests the involvement of a hot mechanism. People do not passively receive emotional experience. Rather, people proactively manage emotional experience. Bracing for the worst represents a preemptive mechanism of mood regulation designed to avoid disappointment arising when personal outcomes fall short of expectations (Shepperd et al., 1996). Bracing avoids disappointment by managing the fit between subjective expectations and actual outcomes to ensure that expectations do not exceed potential outcomes. Bracing involves abandoning optimism in favor of realism, or even pessimism, when positive expectations are threatened. Empirical support across multiple studies, using different paradigms, confirms that people will lower their expectations to embrace pessimism as the moment of truth draws near to avoid feelings of disappointment arising from receiving unexpected bad news (Shepperd et al., 1996; Taylor & Shepperd, 1998).

Carroll, Dockery, & Shepperd (2003) have recently articulated two different forms of bracing. Graduated bracing involves (the conventional notion of) bracing for bad news across moments. Punctuated bracing involves the immediate exchange of optimism for pessimism in a single moment. The embrace of a pessimistic outlook in punctuated bracing reflects a quick recognition and response to exceptional and impactful circumstances. Thus, people may brace for bad news gradually across moments (gradual bracing), or more abruptly in a single moment (punctuated bracing). In both cases,

bracing drives change by leading people to relinquish the positive expectations that support unrealistic selves (Figure 1-1). The notion of bracing in general (as well as gradual and punctuated bracing in particular) provides the perceptual mechanism that enables shifts between outlooks and serves a uniquely human need. Bracing provides a psychological vehicle by which people manage possible selves and the expectations they are based on, both across moments and in the moment, to maximize their preparedness for uncertain outcomes.
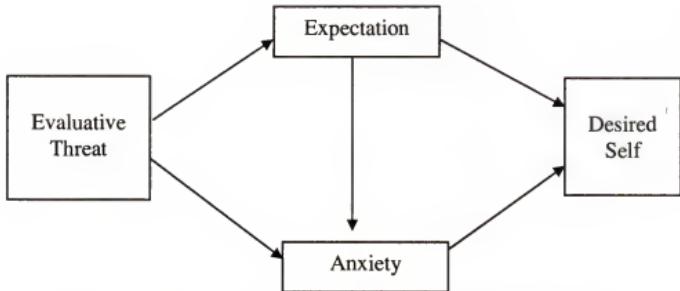
Figure 1-1. Bracing for loss as the mechanism of proactive disengagement from unrealistic selves

Relative impact of the two forms of threat.

I propose that elaborated threat represents the most potent catalyst of the bracing process, even though all forms of threat can theoretically induce bracing for the worst possible self. The power of the elaborated threat to spark punctuated bracing stems from its status as a scripted self-relevant scenario. These types of threats are not loose presentations of facts, but highly elaborate, ordered, and detailed previews of doom. It is worth noting that the elaborated threat presents an undesired prospect that people most likely generate spontaneously as they anticipate the imminent receipt of feedback (e.g.,

entrance exam score or AIDS test). Both threats elaborate a prospect of disappointment. The difference is that the elaborated threat is simulated by a credible external source (e.g., an organic chemistry professor) whereas the anticipated threat is simulated internally as evaluative feedback approaches. Unlike the internally simulated prospect, however, the elaborated threat is skillfully designed to have a lasting impact of change in self. The negative self-relevant scenario made salient by the elaborated threat swiftly attenuates the subjective probability of "making it" relative to "not making it." Ultimately, the relatively more salient and seemingly probable undesired self scenario can summon the glorious forces of protection motivation (Rogers, 1983). These moments in which reality introduces personal limits may be the defining moments with the greatest potential for self-revision. This change, if it is to occur, will be mediated through the expectations that support those possible selves.

The origins of bracing. Re-splitting the universe.

Most likely, people develop bracing early in life, as a response to the subjective experience of disappointment. As noted earlier, people experience subjective disappointment when their expectations exceed the actual outcomes. The duration and intensity of disappointment can be qualified by factors within and outside the individual's control. Of course, the expectation component of the expectancy-outcome fit constitutes one factor that falls within the individual's sphere of control (Shepperd, Carroll, Findley-Klein, & Taylor, 2003). Early in life, people learn that their emotional experience changes depending on how their expectancies match reality. People learn to associate the greater experiences of disappointment with instances in which their expectations far exceed their actual outcome. Moreover, people learn that they have a hard time bouncing back from these great disappointments. By the same token, people learn to associate

lesser experiences of disappointment with instances in which their expectations slightly exceeded actual outcomes. Moreover, people learn that it is easier to pick up and move forward when a bad outcome was expected, than when it was not.

This conditional association becomes seared in memory as an instrumental self-representation, and is activated when people face the prospect of receiving feedback that may disconfirm their positive expectations. The pernicious negativity bias ensures that instances of extreme disappointment stand out against the foreground of possibility, as the prospect of feedback becomes increasingly salient. The rising anxiety associated with protection motivation (Rogers, 1983) sparks a response designed to prevent the negative affect associated with the representation of instances in which expectations far exceeded outcomes. I propose that bracing constitutes a procedural knowledge structure that proactively revises expectations from the best to the worst, in order to minimize the aftershocks of disappointment. Over repeated deployments, this strategy becomes increasingly automated and fluent, as the person associates its deployment with the positive effect of reducing disappointment associated with unexpected bad news and, occasionally, on the elation associated with unexpected good news.

Self-Revision Theory

In sum, my review has presented an explanatory model of the antecedents and mechanics of change in possible selves, in response to threats. Self-revision theory revolves around four central propositions (Table 2). Proposition one states that people will be more likely to abandon a possible self, in the face of threats that elaborate the prospect of the undesired self as more probable than the desired self. Proposition two states that the impact of threats on possible selves will be mediated through the self-relevant expectations. Proposition three states that bracing drives the impact of threats on

desired selves, through the intervening variables of anxiety and expectations. The final

proposition states that bracing provides a proactive mechanism of disengagement from

unrealistic selves.

Table 1-2. Self-Revision Theory

1. In a given domain of self-definition, challenges that elaborate the prospect of the undesired self as more probable than the countervailing desired self will be more likely to induce change.
2. The impact of challenges on possible selves is mediated through self-relevant expectations.
3. Bracing for self-loss drives the impact of challenge on possible selves through expectations and anxiety.
4. Bracing for self-loss serves as a proactive mechanism of disengagement from unrealistic selves.

Overview of Empirical Research Program

The primary purpose of my set of studies was to test antecedents and process of

change in desired selves. Study 1 explored the process of change in a field setting, using

the real-world criterion of desired career selves, expectations, and plans of students

enrolled in a graduate prep course for psychology and control courses. Study 2 moved

into the crucible of experimental design, to test the impact of threat elaboration on

desired selves and to explore the pathways of self-revision.

Hypotheses

Study 1 Overview and Hypotheses

Study 1 examined change in desired career identities in two course samples of

upper division psychology students. Given that all participants were psychology majors,

the desired career identity was defined in terms of the self as a psychologist.

The design of Study 1 assumed that all participants would be motivated to uphold

their chosen career identity but that they would differ in the extent to which they could

reasonably defend the desired career identity. One objective of Study 1, therefore, was to

test whether differences in GPA corresponded to differences patterns of change in career expectations and commitment such that students with higher GPAs might be able to support and sustain their desired identities whereas students with low GPAs would not.

A second objective of Study 1 was to test the interaction between course content and present standing (as indexed by GPA) on changes in identity expectations and commitment to a desired career identity. This objective recognizes that the experience of threat to a desired identity involves more than an awareness of present or desired standing in isolation, but an awareness of the unfavorable discrepancy between present and desired standing. The person with the low GPA does not experience a threat to the desired identity of becoming a psychologist until they encounter something or someone that suggests that their present standing falls short of the standing they will need to achieve their desired identity. These encounters typically occur at the individual level of experience. However, the specialized design and course content of the graduate prep course now makes it possible to track changes in career expectations and commitment across groups that differ systematically in exposure to unelaborated discrepancies between present and desired standing. One objective of the grad prep course is to help students realistically assess their eligibility for certain graduate programs before applying by providing standard admissions requirements against which students match their own GPAs. This objective is not represented by the course design and content of other upper division psychology courses. Thus, by virtue of systematic differences in course design and content, students in the graduate prep course sample who have low GPAs would encounter more unfavorable discrepancies between present and desired standing than students in the control courses sample who have low GPAs. Threat represented the

unelaborated discrepancy between low GPA and exposure to information regarding the standard graduate admissions requirements in the graduate prep course. Conversely, students in the graduate prep course sample who have high GPAs would encounter more favorable discrepancies between present and desired standing than students in the control courses sample who have high GPAs. The design of Study 1 was a 2 (Course Content: Treatment vs. Control) by 2 (Time of Estimate: Time 1 vs. Time 2) mixed model factorial in which Course Content represented the between-subjects factor and Time of Estimate was the repeated measures factor.

Hypothesis 1. Hypothesis 1 tests the third proposition of Self-Revision Theory by exploring how people's expectations of admission to graduate school in psychology is influenced by the possible confirmation of either a desired or undesired self-view as a psychologist. Hypothesis 1 predicted that participants with low GPAs would lower their identity expectations from Time 1 to Time 2 whereas participants with high GPAs would raise their identity expectations from Time 1 to Time 2.

Hypothesis 2. Hypothesis 2 tests the first proposition of Self-Revision Theory by exploring whether the probable confirmation of an undesired self-view prompts a change in the importance attached to that self-view. I reasoned that participants with low GPAs are likely to anticipated that their psychology self will be disconfirmed, and that that participants with high GPAs are likely to anticipate that their psychology self will be confirmed. Consistent with Hypothesis 1, I thus predicted that participants with low GPAs would lower their ratings of identity importance from Time 1 to Time 2 whereas participants with high GPAs would raise their ratings of identity importance from Time 1 to Time 2.

Hypothesis 3. The effect of GPA on changes in identity importance and expectations from Time 1 to Time 2 would be greater among participants in the graduate prep course than among participants in the control course. Specifically, participants would change their expectations and ratings of identity importance from Time 1 to Time 2 only if they were enrolled in the graduate prep course and not if they were enrolled in the control courses (e.g., Psychology of Personality and Research Methods in Psychology).

Hypothesis 4. The changes in career identities would lead to changes in interview performance across time. Declines in the importance a student attaches to a desired career identity would impair the regulation of performance on the identity-relevant interview task. Specifically, personal and interviewer ratings of performance would be lower at Time 2 among participants who lowered their ratings of identity importance. Conversely, elevations in the importance a student attaches to a desired career identity would enhance the regulation of performance on the identity-relevant interview task. Specifically, personal and interviewer ratings of performance would be higher at Time 2 among participants who raised their ratings of identity importance.

Hypothesis 5. The final hypothesis examined whether generalized expectations of personal competence across domains might serve as a source of resilience for specific identities against change. Specifically, Hypothesis 5 predicted that generalized self-efficacy beliefs would moderate the extent to which student's would revise their identity expectations and importance from Time 1 to Time 2. Specifically, participants who reported low generalized self-efficacy beliefs, compared with participants who reported

high in generalized self-efficacy beliefs would show more change in desired career identities and relevant expectations.

Study 2 Overview and Hypotheses

The purpose of Study 2 was to test the limits of the motivated processor to digest elaborated threats and to better articulate the pathways of change in desired selves. The table of threat elaboration was used as an empirical recipe to systematically mix together the necessary ingredients for identity foreclosure. Like the unqualified participants of Study 1, Study 2 participants were allowed to form a desired identity of a career in business psychology and then were or were not exposed to information that that discredited a career in business psychology. For the three conditions that included threatening information, participants received information that suggested that their own academic standing fell short of that required by the business psychology graduate program. Unlike Study 1, however, not all participants retained the motivated freedom to draw their own conclusions of what that discrepancy meant for their future as a business psychologist. Under conditions of threat elaboration, the experimenter elaborated the prospect of the desired self as less likely than undesired self on the basis of the discrepancy.

The design of Study 2 was a 4 (Threat Elaboration: Control, Unelaborated, Partially Elaborated, and Fully Elaborated) by 2 (Time of Estimate: Time 1 vs. Time 2) mixed model factorial in which Threat Elaboration represented the between-subjects factor and Time of Estimate represented the repeated measures factor.

Hypothesis 1. Consistent with Self-Revision Theory (Proposition 1), only participants exposed to the fully elaborated threat condition would lower their expectations of admissions into the Master's in Business Psychology (MBP) program

from Time 1 (prior to the delivery of threat) to Time 2 (following the delivery of the threat).

Hypothesis 2. Consistent with Self-Revision Theory (Proposition 1), only participants in the fully elaborated threat condition would lower their commitment to applying to the MBP program between the Time 1 and Time 2 measures.

Hypothesis 3. Consistent with Self-Revision Theory (Proposition 1), only participants exposed to the fully elaborated threat condition would report greater anxiety at Time 2 over gaining admission into the MBP program

Hypothesis 4. As in Study 1, the final hypothesis examined whether generalized expectations of personal competence across domains might serve as a source of resilience for specific identities against change. Specifically, Hypothesis 5 predicted that the effect of threat on desired selves would be moderated by generalized self-efficacy beliefs.

Hypothesis 5. The impact of threat on desired selves would be transmitted through the mediators of expectations and anxiety. Specifically, the total effect of threat on commitment to the desired self would decompose into a non-significant direct effect and a significant indirect effect through the intervening variables of desired self-expectations and anxiety.

CHAPTER 2
STUDY 1

Study 1: Method

Participants

Participants in Study 1 (male = 23; female = 71) were students enrolled in a

psychology graduate school prep class (treatment participants), and students in enrolled

in three upper division psychology classes including introduction to research methods,

social psychology, and personality psychology (control participants). Students in the

Graduate Prep Course participated to fulfill a course requirement. Students in the control

course samples received extra credit points in exchange for completing the questionnaire

survey.

Procedures

Participants were tested in mass testing sessions during the first and last week of

the academic term. Participants completed an informed consent sheet at both phases of

data collection (Appendix A). After signing the informed consent sheet, participants

completed a questionnaire consisting of three sections (Appendix A).

The first section assessed prior academic record as well as future career plans, and

asked participants to report their current cumulative, major, and upper division GPA.

The first section also assessed future career plans by asking participants to indicate

whether they intended to pursue graduate school in psychology and what area of

psychology they were most interested.

The second section assessed participants' personal expectations for desired occupational selves. Participants estimated the likelihood that they would be admitted to one of their top five choices of graduate programs, one of their top 10 choices of graduate programs, and any graduate program in psychology. Participants also estimated the likelihood of becoming a psychologist in their area of interest or in any area of psychology.

The third section assessed the importance assigned to the desired occupational identity as well as anxiety over the security of that desired occupational identity. This section also included individual differences measures believed to be related to the process of change in possible selves. Thus, the final section included three items (50, 51, and 52) designed to assess generalized self-efficacy beliefs (Appendix A) with internal consistency reliability (Cronbach's α) of .60. Following questionnaire completion, participants were debriefed, thanked, and dismissed.

Phone Interviews

In addition, two simulated phone interviews were conducted in the second and the last week of the course. At both times, participants signed up for a time to be called by a mock interviewer. At the designated time, the mock interviewer called and introduced him/herself as a representative of a graduate school admissions committee. The purpose of this exercise was to expose students to a simulated experience of what an actual phone interview would be like. Following a brief introduction (Appendix A), the mock interviewer asked the participants a series of open-ended questions (Appendix A). These questions were designed by the course instructor to mimic the questions that students might experience in an actual graduate school interview. Once the participant responded

to the final question, the experimenter invited the participant to ask questions. Finally, the mock interviewer thanked the student and concluded the phone interview.

On completion of the interviewer, the participant and the interviewer rated the participant's performance during the interview (Appendix A). The rating sheet consisted of 11 Likert items using a scale ranging from 0 (*not at all*) to 7 (*very much so*). The rating sheet consisted of two subsections. The first subsection included ratings of performance for specific questions (1–6) during the interview. The second subsection included ratings of overall performance during the interview (7–11). The simulated phone interviews provided an index of the student's level of preparation for the interview and served as a proxy for commitment to desired psychologist self.

Study 1: Results

Preliminary analyses revealed no effect of sex of participant on any of the critical dependent measures when it was entered as a main effect or as an interaction. I thus collapsed analyses across sex. Due to missing values on some measures the reported analyses are not based on the same number of cases.

Tests of the Hypotheses

Hypothesis 1. Hypothesis 1 predicted that students with low grade point averages (GPA) s would lower their expectations of becoming a psychologist whereas students with higher GPAs would raise their expectations of becoming a psychologist. Table 2-1 presents the mean identity expectations for both the graduate prep and control course samples at Time 1 and Time 2. For illustrative purposes, I separated participants into high and low GPA groups based on a median split analysis. However, all statistical analyses treated GPA as a continuous variable.

Table 2-1. Expectations of Becoming a Psychologist

	Low GPA		High GPA	
	Time 1	Time 2	Time 1	Time 2
Control Course				
M (SD)	2.8 (2.0)	2.8 (1.4)	2.8 (1.8)	3.1 (1.8)
(n)	(n=29)	(n=29)	(n=28)	(n=28)
(Range)	(1–5)	(1–5)	(1–5)	(1–5)
Prep Course				
M (SD)	4.0 (1.0)	3.9 (1.1)	4.1 (1.0)	4.4 (1.1)
(n)	(n=20)	(n=20)	(n=18)	(n=17)
(Range)	(1–5)	(1–5)	(2–5)	(1–5)

Note: Higher means reflect higher expectations of becoming a psychologist

As evident in Table 2-1, the mean identity expectation at Time 1 was notably higher in the graduate prep course sample than that in the control course sample. This initial difference required that I covary out Time 1 expectations and then examine the *change* in expectations from Time 1 to Time 2. The test of the hypothesis involved a regression analysis predicting change in expectations in which I entered as predictors expectations at Time 1 (after centering), GPA (after centering), and course (0 = control, 1 = graduate prep course). The results of a regression analyses indicated a main effect of GPA on changes in expectations, $F (1, 83) = 3.89$, $p < .05$, $b = .007$, $SE = .004$. Consistent with the sign of the beta weight, the higher the GPA, the greater the change in identity expectations across time. Specifically, as evident in Table 2-1, participants with high GPAs showed greater change in their identity expectations from Time 1 to Time 2 than did participants with low GPAs.

Secondary analyses indicated a similar relationship emerged between GPA and alternative measures of identity expectations. Specifically, GPA predicted changes in admissions expectations for top-level, mid-level, and fall-back doctoral programs from Time 1 to Time 2, all F's > 4.82, all p's < .03, all bs > .007 all SE's < .004. Moreover, GPA emerged as a significant predictor of changes in the specialized identity expectations of becoming a psychologist in one's area of interest from Time 1 to Time 2, $F(1,86) = 4.81$, $p < .03$, $b = .004$, $SE < .003$. In sum, Hypothesis 1 received support.

Hypothesis 2. Hypothesis 2 predicted that students with low GPAs would lower the ratings of importance assigned to a career in psychology whereas students with higher GPAs would raise their ratings of importance assigned to a career in psychology. Table 2-2 presents the mean ratings of identity importance for both the graduate prep and control course samples at Time 1 and Time 2. As in Table 2-1, I divided the sample into high and low categories of GPA for illustrative purposes even though all statistical analyses relevant to Hypothesis 2 treated GPA as a continuous variable.

As evident in Table 2-2 (and similar to the data for expectations), the mean ratings of identity importance at Time 1 was notably higher in the graduate prep course than in the control course sample. This initial difference required that, similar to the data for Hypothesis 1, I covary out Time 1 ratings of identity importance and then examine the *change* in ratings of identity importance from Time 1 to Time 2. Thus, the data analytic strategy for testing Hypothesis 2 was identical to that for testing Hypothesis 1 with the exception that the regression analyses modeled change in ratings of identity importance from Time 1 to Time 2 rather than changes in identity expectations. Contrary to Hypothesis 2, the results of the regression analyses did not indicate a main effect of GPA

on changes in ratings of identity importance, $F(1, 83) = .82$, $p < .37$, $b = .004$, $SE = .003$. Specifically, as evident in Table 2-2, participants with high GPAs did not differ from participants with low GPAs in the amount of change in ratings of identity importance from Time 1 to Time 2.

Table 2-2. Importance of Becoming a Psychologist

	Low GPA		High GPA	
	Time 1	Time 2	Time 1	Time 2
Control Course				
M (SD)	2.8 (2.9)	2.8 (2.7)	2.7 (1.6)	3.0 (2.3)
(n)	*(n=29)*	*(n=29)*	*(n=28)*	*(n=28)*
(Range)	(1–5)	(1–5)	(1–5)	(1–5)
Prep Course				
M (SD)	3.9 (1.5)	3.9 (1.5)	4.4 (1.1)	4.4 (.6)
(n)	*(n=20)*	*(n=20)*	*(n=18)*	*(n=17)*
(Range)	(1–5)	(1–5)	(1–5)	(3–5)

Note: Higher means reflect higher importance ratings for becoming a psychologist

Hypothesis 3. Hypothesis 3 predicted that the effect of GPA on changes in identity expectations and identity importance from Time 1 to Time 2 would be greater in the graduate prep course compared to the control course sample. To test Hypotheses 3, I repeated the analysis strategy described in Hypothesis 1 and 2, and then added the course by GPA interaction term in the model (after first entering the Expectation by GPA and Expectation by Course interaction terms as covariates). Contrary to Hypothesis 3, I found no significant 2-way interaction between GPA and course content on changes in identity expectations from Time 1 to Time 2, $F(1, 83) = .04$, $p > .85$, or changes in ratings of identity importance from Time 1 to Time 2, $F(1, 83) = .22$, $p > .64$.

Hypothesis 4. Hypothesis 4 predicted that the changes in ratings of identity importance would lead to changes in interview performance across time. Specifically, personal and interviewer ratings of performance would be lower at Time 2 among participants who lowered their ratings of identity importance but higher at Time 2 among participants who raised their ratings of identity importance. Hypothesis 4 could not be tested because of too few phone interviews.

Hypothesis 5. Hypothesis 5 predicted that generalized self-efficacy beliefs would moderate the extent to which student's changed their identity expectations and importance from Time 1 to Time 2. Participants who reported low generalized self-efficacy beliefs, compared with participants who reported high in generalized self-efficacy beliefs would show more change in desired identities and relevant expectations. The data analytic strategy for Hypothesis 5 was identical to that used for Hypothesis 3 except that I added generalized self-efficacy (after centering) to the regression model. Contrary to Hypothesis 5, The results of the regression analyses did not show any association between generalized self-efficacy and changes in identity expectations, $F(1, 50) = .03$, $p > .86$, or ratings of identity importance from Time 1 to Time 2, $F(1, 50) = .01$, $p > .92$.

Ancillary Analyses

I conducted secondary analyses in an attempt to account for the predictive failures of Hypothesis 2 and 3. With respect to Hypothesis 2, I conducted secondary analyses that exchanged the primary dependent measures of identity commitment (item 43) for other relevant items (items 40-42, item 44). Thus, the regression models in the secondary analyses were identical to the primary analyses with the exception that alternative dependent measures of identity importance were employed (items 40-42, item 44). The

same pattern of results found in the first analyses that modeled change in ratings of importance assigned to becoming a psychologist (item 43) generalized to across all related measures of identity importance (items 40-42, item 44), all F's < 2.08, p < .15, all bs < .007 all SEs < .004. Taken together, these results suggest that students do not change the importance they ascribe to becoming a psychologist on the basis of GPA.

The only variable that appeared to predict whether students changed the ratings of identity importance was whether they changed their identity expectations. Specifically, results indicated a significant main effect of changes in identity expectations such that increases in identity expectations from Time 1 to Time 2 predicted increases in ratings of identity importance from Time 1 to Time 2, $F (1, 85) = 7.41$, p < .01, $b = .21$, $SE = .08$. This finding is consistent with proposition two of Self-Revision Theory that the impact of threatening information on desired selves is transmitted through the intervening variable of personal expectations.

With respect to Hypothesis 3, I first conducted a set of analyses that attempted to describe and compare background characteristics of the control and grad prep course samples. Given that course content was presumed to interact with GPA, one important goal was to compute and compare the average GPA in each group. Figure 2-1 provides a scatterplot depicting the relationship between GPA and change in ratings of identity importance for both the graduate prep and control course samples. The results of an independent sample t-test showed that participants in the graduate prep course ($M = 3.42$, $SD = .29$) did not differ from the students in the control course sample ($M = 3.35$, $SD = .38$) in their GPA, $t (89) = .90$, p > .37. As with Hypothesis 2, I conducted secondary analyses that exchanged the primary dependent measures of identity expectations (item

37) and commitment (item 43) for other items relevant to identity expectations (items 33-36, item 38) and commitment.
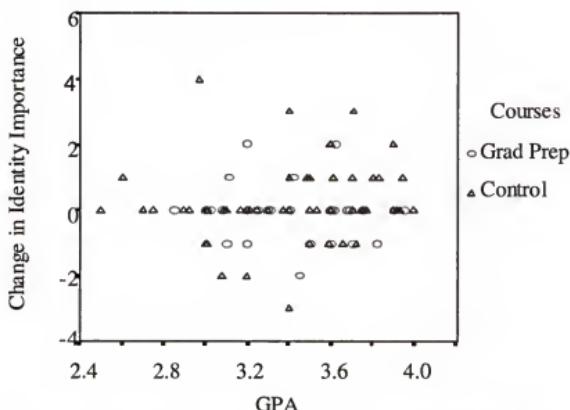
Figure 2-1. Changes in Identity Importance from Time 1 to Time 2 in Graduate Prep and Control Course Samples.

I re-ran the regression model reported in Hypothesis 3 after first substituting the related dependent measures for the measures of identity expectations and ratings of importance employed in the primary analyses. As before, the interaction between GPA and course content did not predict changes on most of the alternative measures of identity expectations (items 33-36, item 38), all F's < 3.66, $p > .07$, or ratings of identity importance (items 40-42, item 44), all F's < 1.59, $p > .21$.

Study 1: Summary

The results of Study 1 provided partial support for Hypothesis 1 in that students with high GPAs raised their identity expectations from Time 1 to Time 2. However, no support was obtained for the second claim of Hypothesis 1 that students with low GPAs would lower their identity expectations from Time 1 to Time 2. With respect to Hypothesis 2, the results of Study 1 showed that GPA did not predict changes in identity

importance. Most important, the results did not support the claim of Hypothesis 3 that exposure to graduate admissions requirements in the prep course but not in control courses would elicit greater self-revision among low GPA students by presenting unfavorable discrepancies between their present academic standing and the academic standing required to achieve the desired self. This finding generalized across a variety of indices of change in identity expectations and importance. Moreover, secondary analyses discredit the possibility that significant differences between the two samples on GPA or age may have obscured the emergence of an interaction between course and GPA. These results seem to suggest that the relationship between social feedback and downward self-revision may be more complex and depend on more than present standing (GPA) or mere exposure to unfavorable discrepancies between present and desired standing.

Hypothesis 4 that changes in identity importance would carry over to interview performance could not be tested given the small number of phone interviews completed at both time points. Finally, the results did not support Hypothesis 5; generalized efficacy beliefs were unrelated to identity expectations and importance.

The failure to show downward self-revision and is at odds with Self-Revision Theory. Upon closer inspection, however, it is possible to reconcile this finding with the propositions of Self-Revision Theory given that the proposition 1 recognizes that unelaborated threats rarely engender self-revision. As argued earlier, the motivated perceiver has enormous flexibility in the choosing the depth at which they process unelaborated feedback. The motivated perceiver uses this freedom of processing to advance input consistent with the stored structure of the desired self to deeper

representational levels but also to block input that is inconsistent with the desired self at shallow levels of representation.

For example, the grad prep student can interpret a low GPA in many ways other than as a premonition of his or her unlikely future as a psychologist. Instead, the student can interpret the disparity between his or her low GPA and the desired future (3.5 standard admissions requirement) as a temporary difference that can and will be overcome, as the environmental conditions that produced it change. So, for example, the student could protect the desired self by explaining away his or her substandard GPA by distinguishing the present and future selves from a "past" self that was young and immature. Even the upper division student who has no time to recover the GPA before graduation, can still make a motivated but reasonable case for the desired self on the grounds that other criterion can and do factor into admissions decisions (e.g., GRE scores, strong letters of recommendation).

Self-Revision Theory argues that this sort of motivated reasoning to protect the desired self is vastly restricted when the implications of threatening feedback are elaborated at the point of input in a message communicated by a social agent (e.g. faculty member). Elaboration of the logical implications of the failing grade places the threat on the same level of abstraction as the stored desired self, setting the stage for downward self-revision. One purpose of Study 2 was to manipulate the variable of threat elaboration to determine if and when downward self-revision could occur.

CHAPTER 3
STUDY 2

Study 2: Method:

Participants

Participants were 59 undergraduate students (male = 18; female = 41) enrolled in one of three classes at the University of Florida. Participants received extra credit in exchange for their participation.

Procedure

The experiment was held in the Campus Center lounges outside of the career resource center in order to lend credibility to the cover story. The experiment consisted of four phases: (1) A brief introduction by the office secretary (including the signing of the informed consent and Time 1 questionnaires), (2) Determining eligibility criteria for the MBP program, (3) Delivery (or non-delivery) of threat by the Career Advisor, and (4) Time 2 questionnaires, debriefing and dismissal of participants.

When participants arrived for the experiment, a researcher posing as the office secretary explained that the purpose of the study was to provide information and recruit viable applicants for a new career training opportunity. At that point, the secretary obtained informed consent from participants before proceeding further. After collecting the informed consent sheet, the secretary provided participants with a pamphlet describing a12-month accelerated master's program in Business Psychology. The pamphlet included the program goals, curriculum, and recent placements of graduates in similar programs at other universities. The secretary explained that the head career

advisor of this program would be in shortly to tell the participant more about the program. The secretary then asked participants to complete a career inventory (see Appendix B) on an official MPB clipboard before the career advisor arrived. Next, the secretary collected the clipboard and instructed the participant to read over the brochure while he/she checked to see if the career advisor was ready. At that point, the secretary exited the room with the clipboard.

Upon exiting the room, the secretary and the career advisor checked the participants' self-reported cumulative GPA and select the insert from a black file folder indicating no minimum GPA requirement or a requirement .10 above the participants GPA. The career advisor selected from a pre-manufactured set of eligibility inserts to represent every potential GPA value in the range of 2.40 and 4.00 in order to ensure that all participants were exposed to an eligibility insert .10 GPA points above their own GPA. These inserts were printed on official letterhead for the Masters in Business Psychology Program in order to lend credibility to the cover story (see Appendix B).

After selecting the appropriate insert, the career advisor entered the room and introduced him/herself as the head career advisor of the Masters in Business Psychology program at the university. Following the brief introduction, the career advisor sat down behind a large office desk and then motioned for the participant to take a seat in front of the desk.

Threat Elaboration Manipulation

In the next phase of the experiment, the career advisor exposed participants to one of four conditions of threat elaboration using a prefabricated eligibility GPA that fell .10 above the participant's GPA. The career advisor explained that although heightening student awareness regarding the MBP program was one objective of the session, a second

objective was to assess the eligibility of each student for the MBP program. The career advisor then informed the participant that he/she would like to take the next few minutes to review the eligibility requirements of the program. In both treatment conditions, the career advisor then opened the briefcase on the desktop and removed the official MBP clipboard with the eligibility insert clipped on top of the career inventory the participant completed. For the Control condition, however, only the eligibility insert will be on the clipboard. The career advisor then closed the briefcase, walked from behind the desk, and pulled a large office chair next to the participant.

In the *Control* condition, the advisor explained that the requirements for their own university had not yet been established. The advisor then explained that he/she would like to go over the requirements of a similar MBP program at the University of Michigan. The advisor warned the participant, however, that the requirements do vary across programs and, as such, the requirements from a university similar in size to the students' home institution were only intended to provide a rough idea of the criteria expected for admission to the MBP program.

In the *Unelaborated Threat* condition, the advisor only presented the eligibility requirement, but did not flip back to the participant's career inventory in order to underscore the relative discrepancy between the participant's personal GPA and the required GPA. The advisor presented the eligibility requirement without elaborating the logical implications of the discrepancy between the participant's GPA and the required GPA.

In the *Partially Elaborated Threat* condition, the advisor presented an eligibility insert indicating that the participant's GPA fell .10 GPA points below the minimum GPA

requirement. In addition, the advisor ensured the awareness of the relative discrepancy by first pointing to the requirement indicated on the insert and then flipping the eligibility insert back to reveal the information provided on the participant's career inventory. The advisor then pointed to the participant's self reported GPA and ask the participant to acknowledge the relative discrepancy between personal GPA and required GPA. Based on this, the advisor elaborated the desired prospect as unlikely by indicating that, in his/her professional opinion, the participant would probably not be a viable candidate for the MBP program. In addition, the advisor indicated that he/she did not believe it would possible for the participant to bring his/her GPA up to program requirements by their time of graduation. The advisor still encouraged the participant to apply, adding that there was a slim possibility of admission since people who should not have been admitted hit a lenient admissions committee and were able to slip in to the program.

The *Fully Elaborated Threat* condition was identical to the *Partially Elaborated Threat* condition with one exception. In the *Fully Elaborated Threat* condition, the advisor added that the elaboration of the undesired prospect was likely. The advisor indicated that the odds that the participant would be rejected were very high and further added that the participant would spend their time and money on an application that would most likely end in the disappointment of a rejection letter.

Following the threat manipulation, the career advisor informed the participant that they could obtain an MBP application from the secretary following the session. The career advisor also referred the participant to the career advising office as a useful resource in the process of making career related decisions. The advisor then explained that he/she would need to leave to prepare for the next appointment, but encouraged the

participant to contact the business office should they have any questions. Before leaving, the advisor indicated that the secretary would be returning in a moment to request that the participant complete an exit inventory. At that point, the advisor handed the participant a personal business card, thanked the participant for coming by, and exited the room.

The secretary re-entered the room one minute later and instructed the participant to complete the exit inventory. The secretary explained that sometimes candidates changed their minds regarding the program as a justification for completing the career inventory a second time. Finally, all participants were debriefed, thanked, and dismissed.

Study 2: Results

Preliminary Analyses

Preliminary analyses revealed no effect of sex of participant on any of the critical dependent measures when it was entered as a main effect or as an interaction. I thus collapsed analyses across sex.

Two preliminary analyses examined the impact of the treatment across groups. The first examined whether participants differed in their expectations or commitment at Time 1, prior to exposure to the treatment. The second examined whether participants differed in their expectations and commitment at Time 2, following exposure to the treatment. Analyses revealed no difference across conditions in admissions expectations, $F(3, 54) = .46$, $p > .71$, or in commitment to pursuing the business psychology program, $F(3, 54) = .51$, $p > .68$, at Time 1. At Time 2, significant differences emerged in participants' expectations of admissions to the business psychology program (Table 3-1), $F(3, 54) = 5.64$, $p > .002$. Surprisingly, however, significant differences did not emerge in commitment to pursue the business psychology program (Table 3-2), $F(3, 54) = 1.39$, $p < .26$.

Primary Analyses

A series of dependent sample t-tests compared participants' commitment to pursuing the program and admissions expectations across time points. Tables 3-1 and 3-2 (columns 2 and 3) present the participants' admissions expectations and expressed commitment to applying to the program before and after the manipulation.

Hypothesis 1 and Hypothesis 2. The first two hypotheses made strong claims regarding the unique capacity of fully elaborated threats to induce downward self-revision. Specifically, I predicted that only participants exposed to fully elaborated threat would lower their admissions expectations (Hypothesis 1) and their commitment to applying to the MBP program (Hypothesis 2) from Time 1 to Time 2. As expected, results showed that participants in the control and unelaborated threat conditions did not change their admissions expectations from Time 1 to Time 2 or their level of commitment from Time 1 to Time 2. Contrary to Hypotheses 1 and 2, however, participants in the partially elaborated threat condition significantly lowered their initial admissions expectations and their initial level of commitment in response to the manipulation. Finally, as predicted, participants in the fully elaborated threat condition significantly lowered their initial admissions expectations and their initial commitment to pursuing the business psychology program in response to the manipulation.

It is worth noting that the effect sizes were much greater in the fully elaborated threat condition than in the partially elaborated threat condition. Moreover, the results of simple interaction tests showed that the effect of time on changes in commitment to the desired self was significantly greater in the fully elaborated threat condition compared to all other conditions (Table 3-2).

Table 3-1. Expectations of admissions into business psychology program

Threat Elaboration	Time 1 estimate $M(SD)$	Time 2 estimate $M(SD)$	t	p	d
Control ($n = 15$)[a]	64.6 (27.9)	68.7 (29.1)	1.28	.22	.32
Unelaborated ($n = 14$)[a]	57.1 (27.5)	50.7 (30.4)	0.71	.49	.18
Partially Elaborated ($n = 15$)[b]	58.3 (17.5)	32.0 (27.2)	7.12	.0001	1.74
Fully Elaborated ($n = 14$)[b]	65.4 (20.3)	33.9 (23.6)	3.81	.002	.96

* Groups that share superscripts were shown in simple interaction tests to exhibit the same effect of time on changes in expectations of admissions into the MBP program.

Table 3-2. Commitment to Applying to the Business Psychology Program

Threat Elaboration	Time 1 Estimate M	Time 2 Estimate M	t	p	d
Control ($n = 15$)[a]	2.9 (2.1)	2.9 (1.8)	.16	.87	.04
Unelaborated ($n = 14$)[a]	2.9 (1.3)	2.6 (1.3)	.84	.41	.21
Partially Elaborated ($n = 15$)[a]	2.9 (1.4)	2.4 (1.4)	2.17	.05	.53
Fully Elaborated ($n = 14$)[a]	3.5 (1.7)	1.9 (0.7)	3.16	.01	.80

*Groups that share common superscripts were shown in simple interaction tests to exhibit the same effect of time on changes in commitment to apply to MBP program.

Hypothesis 3. As with the Hypotheses 1 and 2, Hypothesis 3 made strong claims regarding the unique capacity of fully elaborated threats to elicit anxiety. Specifically, I predicted that only participants exposed to fully elaborated threats would report higher anxiety at Time 2 than at Time 1. As expected, participants in the control, unelaborated, and partially elaborated threat conditions did not report anxiety at Time 2 than at Time 1.

Inconsistent with Hypothesis 3, however, participants in the fully elaborated threat condition did not report greater levels of anxiety at Time 2 than at Time 1.

Table 3-3. Anxiety Over Eligibility for Business Psychology Program

Threat Elaboration	Time 1 Estimate M	Time 2 Estimate M	t	p	d
Control ($n = 15$)[a]	0.9 (1.1)	0.9 (1.3)	.37	.72	.09
Unelaborated ($n = 14$)[a]	0.8 (0.8)	0.6 (0.8)	.69	.50	.17
Partially Elaborated ($n = 15$)[a]	1.2 (1.2)	0.9 (1.2)	1.20	.21	.32
Fully Elaborated ($n = 14$)[a]	1.1 (1.0)	1.5 (1.1)	1.16	.27	.29

[a] Groups that share superscripts were shown in simple interaction tests to exhibit the same effect of time on changes in expectations of admissions into the MBP program.

Hypothesis 4. Hypothesis 4 predicted that generalized self-efficacy beliefs would moderate the relationships among threat and desired selves. Specifically, I predicted that participants high in generalized self-efficacy beliefs as compared to participants low in generalized self-efficacy beliefs would report to less change in expectations and commitment to the desired self from Time 1 to Time 2. Inconsistent with Hypothesis 4, the results of Study 2 revealed no association between generalized self-efficacy and change in expectations or commitment, all r's $< .07$, all $ps > .59$. I excluded generalized self-efficacy from further analyses given that evidence of a moderator relationship depends on the prerequisite of a basic zero-order relationship.

Hypothesis 5. Although the above analyses support the claim that the threat elaboration influences desired selves, they are silent as to the pathways of effects. I conducted a path analysis to test whether changes in expectations and anxiety mediated

the effect of threat elaboration on changes in commitment to the business psychologist self. The test of the path model involves comparing the observed fit of the proposed target model against a saturated model. The saturated model is the hypothetical model of perfect fit that includes all possible links between exogenous and endogenous variables as well as all possible links between endogenous variables, but excludes bi-directional effects or correlated errors. The results of a path analysis using maximum likelihood estimation revealed adequate fit for the hypothesized model, $\chi^2(1) = .03$, $p = .85$, RMSEA = .00, RMR = .00, CFI = 1.00.

The coefficients that correspond to the link between variables reflect the value (size and direction) of the effect of a given predictor variable (exogenous or endogenous) on a given outcome variable (endogenous). These coefficients represent standardized regression coefficients generated in LISREL 8. As depicted in Figure 3-1, an analyses of effects shows that threat elaboration exerts the strongest effect on changes in commitment followed by expectations and anxiety (the total effects are -.35, .24, -.09, respectively) More importantly, the total effect (-.35) of threat elaboration decomposes into a significant direct effect (-.23) and an insignificant, albeit substantial, indirect effect (-.12). Two indirect paths from threat elaboration to changes in commitment can be traced through changes in admissions expectations and anxiety $[(-.51)(.24) + (- .08)(-.09) = -.12]$.

Thus, the total effect of the threat manipulation on changes in commitment to pursuing the business psychology program is primarily due to a direct effect, but partially due to an indirect effect through changes in admissions expectations. Finally, change in commitment to pursuing the business psychology program is affected by both changes in

admissions expectations (.24) and changes in anxiety (-.09). These total effects are equivalent to direct effects given that the model specifies no intervening variables to interrupt the links between changes in admissions expectations and changes in anxiety on changes in commitment. Thus, changes in admissions expectations contributes to the fitness of the model through its unique effects and through its role as a mediator of the effects of threat on changes in commitment to pursuing the business psychology program. In the context of my study, anxiety appears to contribute very little as a direct effect or as a mediator of the effect of threat on desired selves.
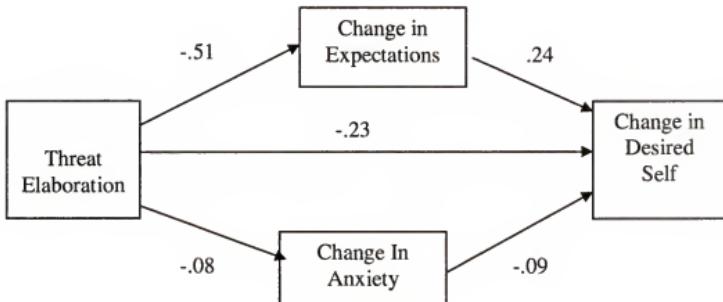
Figure 3-1. The Pathway of Effects in Self-Revision

Study 2: Summary

Several important findings emerged from Study 2. The findings of Study 2 confirmed Hypotheses 1 and 2 that predicted that threats must elaborate the meaning of a discrepancy between current and desired standing to induce the revision of desired selves and relevant expectations. However, these findings also suggest that the first proposition of self-revision theory may have underestimated the potential of partially elaborated threats to produce self-revision. The results showed that threats that merely elaborate the

prospect of the desired self as unlikely engender revision in desired selves and expectations. One possibility is that the discreditation of the desired self may be sufficient to engender self-revision via the spontaneous generation of the undesired alternative through mental simulation. That is, people may elaborate the prospect of the undesired alternative on their own once a credible social agent has elaborated the desired self as unlikely. A second possibility is that the empirical execution of the partially elaborated threat condition may have too strong such that it represented the equivalent of a fully elaborated threat. The experimental script for the partially elaborated threat condition included key-terms relevant to the undesired self. For instance, at one point, the career advisor suggested that a rejection letter would be more likely than an acceptance letter if the student were to apply to the MBP program. Future studies need to address the viability of both explanation by including only terms related to the discredition of the desired self and excluding any references to the undesired alternative. Inconsistent with Hypothesis 3, exposure to fully elaborated threat did not engender higher levels of anxiety. Moreover, as in Study 1, the findings did not support Hypothesis 4 that generalized self-efficacy beliefs would moderate the relationship among threats, expectations, and desired selves by providing an internal source of resistance against self-revision. Finally, the results provide mixed support for the claim of Hypothesis 5 that the process of self-revision would be driven by the intervening variables of expectations and anxiety. The results of the mediation analyses for my study suggest that changes in expectations partially mediated the effect of threat elaboration on changes in commitment to the possible self, and that anxiety had no effects on changes in commitment to the possible self.

Several points deserve mention regarding the failure to find evidence of the mediating role of expectations and any role of anxiety in my study. The first point is that failure to find evidence of mediation may be a symptom of the coding scheme used in the present analyses rather than a substantive failure of Self-Revision Theory. Specifically, the results are based on a path analysis that codes threat elaboration variable was coded as a continuous rather than a categorical variable. This analysis is clearer to present but does make an equal interval assumption whereby a threat at the fully elaborated level is assumed to be three times as elaborated the unelaborated threat. One potential consequence of this assumption is that the coding scheme may potentially underestimate direct and indirect effects. However, secondary analyses showed the same pattern and magnitude of effects when threat elaboration is coded as a categorical variable.

Related to the first point, the second point is that failure to find evidence of mediation may be a symptom of the low sample size rather than a conceptual failure of Self-Revision Theory. Specifically, large sample sizes are particularly important when estimating effects in structural equation modeling. Particularly with respect to the test of Proposition 2, evidence for the mediation mechanisms specified in Propositions 1 and 2 of Self-Revision Theory may be obtained by merely increasing the size of the present sample.

Finally, the failure to find evidence for the mediating roles of expectations and anxiety in the process of self-revision may be a symptom of this single empirical context. That is, some idiosyncratic feature of the experimetnal protocol of Study 2 may have obscured the true influence of expectations and anxiety in transmitting the impact of threat elaboration on commitment to applying to the MBP program. The exact roles

expectations and anxiety (or lack thereof) in the process of self-revision must be measured over multiple empirical studies embedded within the context of a systematic program of future research. I will revisit this point in the general discussion.

CHAPTER 4
DISCUSSION

General Summary of Findings

My set of studies provides some important insights into how Self-Revision Theory can be used to explain when, why, and how people change their desired selves in response to threatening feedback. The results of Study 1 suggest that unelaborated information regarding present standing or the discrepancy between present and desired standing did not represented the best or even the reliable predictors of downward self-revision in desired expectations or identities.

The experimental design of Study 2 permitted a controlled test of the effect of threat elaboration on self-revision. As in Study 1, Study 2 showed that exposure to unelaborated threats did not spark a downward revision of identity expectations or commitment. These findings showed that threats that elaborated the prospect of the desired self as unlikely sufficed to induce the downward revision in desired selves and relevant expectations. This finding suggests that the first proposition may have underestimated the potency of the partially elaborated threat to induce self-revision. Although the impact was much greater in the fully elaborated condition, future studies should further test the value of including the accreditation of the undesired self over the discreditation of the desired self in a recipe of downward self-revision.

These findings also shed light on the links among threatening feedback, expectations, anxiety, and desired selves. Consistent with self-revision theory, the

findings of the first study showed that changes in expectations uniquely predicted changes in identity importance controlling for other factors whereas unelaborated feedback did not. However, the analyses of Study 2 indicated that expectations only partially mediated the effect of threatening feedback on desired selves. Moreover, inconsistent with Self-Revision Theory, the findings of Study 2 did not demonstrate the role of anxiety in the process of self-revision. Finally, neither study supported the role of generalized self-efficacy expectations as a moderator of the relationship between threat and desired selves. It may be that general expectations that one is competent across domains of life may be too global too effectively reinforce the specific expectations attached to a desired domain of self-definition. One possibility is that self-efficacy expectations acquired in achievement domains relevant to the desired self domain may be more likely to qualify the impact of threats on a desired self.

Theoretical Implications

Deboning the Story of Self

These findings are potentially useful in understanding a variety of processes related to self and identity. Although I have restricted the focus to future selves, self-revision theory can be applied to any self-representation (e.g. actual or ideal). Personal narratives represent a particularly intriguing area of interest because it represents the self-representation that is most often revised in response to external feedback (Ross & Conway, 1986; Newby-Clark & Ross, 2003).

Autobiographical narratives provide the mental superstructure that organizes specific selves into a coherent story line over time (Erikson, 1958; Markus & Wurf, 1987). The larger life narrative unit may be divided into smaller sub-units of life tasks (Erikson, 1958; Cantor & Fleeson, 1986) that represent major developmental problems

that the person works to overcome at a particular time in his/her life. As an adolescent, the premed student may have been consumed by the life task of making the starting lineup on the basketball team that ultimately gives way to the life task of finding a career in young adulthood. Autobiographical narratives represent the common thread that unifies these discrete chapters of life into a coherent story line.

The sheer volume of experience that must be integrated into a cogent story line contributes to the need to revise autobiographical narratives (Markus & Wurf, 1987). All self-representations must be plausible in light of incoming evidence in order to survive. However, personal narratives must not only be plausible themselves but must also fit the subordinate representations plausibly into the overarching story line (McAdams, 1993). Like any historical record, personal narratives can press, mold, and spin facts to construct a plausible story line. Often times, the revision of narratives involves the reconstrual of the past, present, and future (Erikson, 1959; McAdams, 1993). However, the capacity for motivated revision of evidence does not extend to the outright fabrication or manufacturing of facts in one's history (McAdams, 1993). Thus, the storyline of the premed student of having worked their his/her out of abject poverty would exceed the limits of plausibility if s/he grew up in Beverly Hills. Moreover, the story line of the premed student as having always known that he/she would become a lawyer would be implausible if he/she spent their first year in premed before switching to prelaw.

This state of interconnectedness among components of the narrative would suggest that threats to one component would not occur in isolation but spill over to threaten the stability of the entire narrative. For example, the elaborated threat posed by the faculty member not only threatens the integrity of the doctor self in the premed student, but also

the collective integrity of the story of life progress on which that desired self is predicated. The premed student would experience extreme discomfort until the integrity of the overall narrative can be restored. It is reasonable to assume that the premed student would be highly motivated to avoid the state of discomfort experienced during self-revision in the future. As such, people may be especially cautious in the wake of painful self-revisions when selecting replacements to add to the narrative structure. Support for this prediction would qualify research suggesting that people throw caution to the wind when forecasting their futures (Robinson & Ryff; 1999; Newby-Clark & Ross, 2003). These findings suggest that bright futures may be symptomatic of unthreatened selves but that when the sting of self-revision is still fresh, people may forego unrealistic selves even if these selves embody their greatest dreams.

Another intriguing implication of Self-Revision Theory for theory and research in personal narratives concerns the potential for time-dependent shifts in the construal of the threatening event. Specifically, people may display a favorable shift in the construal of the threatening event as proximity decreases. As noted above, the premed student may view the faculty member's advice as exceedingly unpleasant until they integrate the substitute desired self into the body of the personal narrative. The success of this regeneration process, however, demands that the person integrate the initiating event (the threatening event) as well as the newly constructed self into the overarching story line. For example, the once premed student may recollect the experience in the faculty member's office as a beneficial experience while still appreciating the significant disruption and pain it caused. After initial protests, the importance of the incumbent self would be devalued relative to the newly constructed self.

At first blush, one might assume that the decision to abandon the doctor self in exchange for the lawyer self might be the basis for regret. However, research on the temporal experience of regret for actions and inactions suggests that the choice to revise the self would inspire less regret than not choosing to revise the self in the face of elaborated threat (Gilovich & Medvec, 1993). The natural tendency of the autobiographical narrative toward reorganization may prompt the person to reconstrue the painful event as the wake up call that took their life course off the road to nowhere in medicine and onto the road to success in law. Of course, future research is needed to explore the process of self-revision in autobiographical narratives.

The (Non-) Directionality of Change

The results of both studies suggest that evaluative feedback must go beyond the mere presentation of information to elaborate the prospect of a desired self as unlikely in order to induce self-revisionary processes. Although I focused on the elaboration of threatening feedback, people should be able to elaborate favorable evaluative feedback for themselves or for another person into the prospect of a desired and the direction of self-revision to be upward. For example, there is no reason to assume that the faculty member could not elaborate the dream of becoming a doctor as likely for one student in the same way that they elaborated the nightmare of failing to become a doctor for another student. This question of the social facilitation of upward self-revision may seem unnatural given that people appear quite adept at elaborating favorable evaluative feedback into more positive selves. There are at least two reasons why the question of socially generated upward self-revision merits empirical attention. First, the capacity to elaborate favorable feedback in upward self-revision processes may not be spontaneous or even functional in some populations. For example, the severely depressed individual

may lack the ability or motivation to elaborate favorable feedback into the prospect of better self. Therapists or counselors might use feedback elaboration to initiate upward self-revision in unrealistically negative selves.

A second reason that is more basic justification exists for exploring the potential of positive self-revision. Self-revision theory accords a central role to affective processes as the engine of self-revision. There is no reason to assume that affective processes would play a central role in the downward self-revision but not in upward self-revision. Most likely, the role of affective dynamics is symmetric across the processes of upward and downward self-revision. For example, excitement or feelings of self-confidence may drive upward self-revision if anxiety or self-doubt is shown to drive downward self-revision. The potential symmetry between upward and downward self-revision remains an unexplored empirical question.

Limitations and Future Directions

The Adaptive Value of Self-Revision?

Self-Revision Theory advances bracing for loss as an adaptive mechanism of proactive disengagement from unrealistic selves. The eugenic value of bracing for self-loss has been proposed to stem from the asymmetry that exists in the consequences of predictive error for cognitive and emotional preparedness (Baumeister, Heatherton, Tice, 1993; Carroll et al., 2004). Although this proposition of self-revision theory is certainly consistent with prior theory and research, the present investigation has levied evidence to support this claim for the adaptive value of revising a desired self only on the basis of an elaborated threat of prospective failure rather than actual failure. Future research should test whether those that prematurely revise an unrealistic self recover faster than those that delay revision until after failure on subsequent emotional, cognitive, and social tasks.

The proposition that that self-revision serves some adaptive good remains only speculation without evidentiary support the functionality of self-revision over other mental or behavioral responses to evaluative threats.

The Mechanism of Self-Revision

The failure to demonstrate the role of anxiety in the self-revision process is perhaps the most troubling aspect of the present investigation given the motivational flavor of Self-Revision Theory and the proposed mechanism of bracing for self-loss. Future research must determine whether methodological or more substantive corrections are necessary to resolve the mechanism of self-revision.

Alternative Mechanisms. Future research could focus on testing alternative mechanisms of self-revision in the event that the value of anxiety cannot be demonstrated. Although many viable candidates exist, two in particular are worthy of mention: self-doubt and self-focused attention.

Self-doubt represents one potential candidate for the mechanism of self-revision. Self-doubt can be defined as feeling of uncertainty about one's competence coupled with a preoccupation over the prospect of failure and negative evaluation (Jones & Berglas, 1978). Self-doubt has been conceptualized as a state that can be situationally induced as well as a chronic individual difference (Oleson, Poehlmann, Yost, Lynch, & Arkin, 2000). Both forms of self-doubt have been advanced as precipitates of self-concept instability (Govorun, Sauser, Fazio, & Arkin, 2004). That is, people do not abandon goals if they do not question their ability and competence to achieve those goals.

Within the context of the present investigation, Self-Revision Theory proposes that people typically maintain positive expectations regarding their ability to achieve their desired self. These favorable expectations provide the cognitive support on which that

desired self is anchored. Self-revision occurs when threats that elaborate the prospect of the undesired self as more likely than the desired self weaken the expectancy basis for the desired self. This weakening process may begin with only a slight drop in optimism in response to a single pang of self-doubt. Self-doubt and expectations may then enter a reciprocal relationship in which lowered expectations further elevate feelings of self-doubt. As the cycle continues, self-doubt may ultimately bloom into feeling greater certainty for the undesired self relative to the desired self.

For example, the premed student may enter the faculty member's office with a sense of optimism that they will successfully realize their dream of becoming a doctor. This prevailing optimism may weaken, however, as the faculty member mixes up the recipe for threat elaboration into the prospect of the desired self as less likely than the undesired self. This process may accelerate if the student cannot discredit or dismiss the unpleasant scenario elaborated by the faculty member. Self-revision occurs as the initially small pang of self-doubt grows to cripple the optimistic outlook that once supported the desired self.

Self-focused attention represents another potential candidate for the mechanism of self-revision. Self-focused attention involves the comparative contrast between a current and desired end. Self-regulation theorists assert an interaction between expectations and self-focused attention on decisions to maintain or annul commitment to goal pursuits (Bandura, 1978; Carver & Scheier, 1981). Empirical evidence supports the claim that the ability of unfavorable expectations to predict behavior depends on the level of self-focused attention (Carver, Blaney, & Scheier, 1979). Unfavorable expectations predict withdrawal from goal pursuits only in the context of high and sustained self-focused

attention. It is worth noting that unelaborated threats may induce self-focused attention that is quickly suppressed by motivated thought processes (e.g. information avoidance). Alternatively, the motivated processor may be unable to disrupt negative self-focus in the context of threats that maintain the salience of the discrepancy by elaborating the meaning of the discrepancy into prospect of the desired self relative to the undesired self.

The power of self-relevant imagery to promote the impact of expectancies on behavior has received considerable support (Gregory, Cialdini, & Carpenter, 1982; Ruvolo & Markus, 1992). These forms of self-relevant imagery influence expectancies by elaborating success or failure relevant cognitions and enhancing their salience under the attentional spotlight. The expectations rise or fall depending on whether the images heighten the attentional focus on success or failure outcomes.

Methodology. Future research might first attempt to make methodological adjustments before ruling out anxiety and bracing as mechanisms of self-revision. Such methodological adjustments can involve the refinement of the questionnaire items or refinement of the measurement protocol.

Future research could focus on refining the item or instrument measuring anxiety. The measure of anxiety in both studies used program admissions as the object of anxiety. Participants reported how anxious they were about admission to a professional training program (graduate school in Study 1; business psychology program Study 2). Although admission into these programs is certainly a necessary first step, it is not tantamount to the desired self. Given that self-revision is presumably driven by anxiety over reaching the desired self, it may be more appropriate to use an item that directly measures anxiety over reaching the more enduring self-definitional goal of the desired self. Such a desired-

self specific item may be a better measure of the anxiety proposed to drive downward self-revision.

Future research could employ more time sensitive measures of emotional dynamics to better illuminate the precise relationship (or lack of) between anxiety and self-revision. Study 2 assessed anxiety several minutes before and after the primary manipulation. Although this measurement protocol revealed that self-revision had occurred, it did not reveal the role of anxiety in this process. It may be, however, the role of anxiety as a mechanism of change in self-definition ended once self-revision occurred. Bracing may constitute a mechanism of instability that precedes change in the self-system. Over time, the instability generated by bracing would be resolved by self-revision as the self-system re-organizes around the newly revised self-representation. Self-revision is the mental resolution of bracing for self-loss. Self-revision and bracing may represent complementary processes that emerge in sequence to explain the vicissitudes of self. Of course, such a complementary relationship would require measurement protocols of greater sensitivity than the standard pre-post measurement protocol employed in traditional experimental paradigms. The most obvious approach would be to simply add additional measurements in the interval between pre and post measure. In addition, future research could adapt neural network frameworks to simulate the temporal relationships between bracing and self-revision in the complex dynamical self-system. An advantage of computer simulations is that they enable us to *visualize* the unfolding of shifts in cognitive and emotional states. One can actually *see* the threshold at which the old relationship among variables in the model (e.g. threat elaboration, desired selves, bracing, self-revision) destabilizes and shifts into a qualitatively different relationship.

For example, recurrent neural networks have been used to model the emergence and transitions between emotional states (Thagard & Nerb, 2002). Future research could adapt neural network models to track the pattern of emotional-cognitive dynamics that unfold in the process of self-revision. This level of time-sensitivity cannot be achieved through conventional experimental methods. Of course, the computer platform would only serve to supplement not supplant traditional experimental methods. Conventional experimental approaches and simulation platforms would work together to provide a more precise understanding of the vicissitudes of the dynamic self.

The Self as a Complex Dynamical System

The present investigation has implications that extend beyond self and identity research to more general models of change in mental structures (Albarracin, Wallace, Glassman, 2003). A common assumption of such models is that mental structures display both stability and dynamism over time. The goal of these models is to identify the control parameters of stability and change in these mental structures. That is, what leads the once rabid conservative to adopt a liberal political ideology and back Jesse Jackson? More germane to the present investigation, what leads the premed student to abandon the dream of becoming a doctor for the dream of becoming a lawyer? Some theorists have turned to the meta-theoretical perspective of complex dynamical systems, used to understand change in physical systems, to enhance understanding of the change in psychological system.

Complex Dynamical Systems. In dynamical systems terms, mental structures like desired selves can be thought of as attractors within a self-system. Technically, attractors represent statistical descriptions of a given pattern that a natural system prefers to reside in and how resistant that pattern is to change. For example, those portions of the working

self that represent on-line constructions tied to the prevailing social circumstance represent unstable attractors in the self-system. These portions do not represent a pattern that the system prefers to reside in, and require very little disruption to shift. In contrast, chronically accessible self-schemas represent more stable attractors. These structures may be so stable as to seem native and able to resist any force of change.

The Hard-Assembly Fallacy. Although appealing, the conclusion of immutability is fallacious. Modern complex dynamical systems theories view even the most stable attractor as softly assembled rather than hard-wired components within an ever-evolving system. Self-organization in natural systems can assemble around a nearly infinite array of mental points or configurations. Some mental constructs (self-representations, ideologies, etc.) may represent attractors of greatest stability that would require more severe disturbance relative to attractors of lesser stability (e.g. mental simulations,). Even the former, however, have stability limits that can be disrupted under the appropriate set of conditions (Kuo, 1967; Kelso, 1995; Johnson & Nowak, 2002).

As noted earlier, a primary objective of mapping dynamics in the self-system would be to identify the control parameters that precipitate non-linear shifts. I argue that threat elaboration constitutes one such critical parameter that precipitates non-linear change in the self-system. By non-linear, I mean gradual increases in this parameter may engender only minor shifts in the self-system until a critical crossed is reached. Once that threshold is crossed the old relationship becomes unstable and the self-system shifts into a qualitatively new pattern. Thus, the dream of becoming a doctor may represent a highly stable attractor within the self-system. The disruptions created by most feedback

would not exceed the stability limits of this attractor and thus would not be enough to permanently push mental and behavioral patterns away from the doctor self attractor.

For example, the unelaborated feedback of a failing exam grade may create a minor perturbation that momentarily drives mental or behavioral patterns away from the doctor self attractor. For the stable attractor, this momentary disruption of stability would be followed by a swift regression of mental and behavioral patterns around the original doctor self attractor position. Most forms of feedback would not exceed the stability limits of firmly established self-representations. However, the disturbance created by fully elaborated threat may be sufficient to knock mental and behavioral patterns out of their original attractor landscape (self as a doctor) and cause them to reorganize on a newly created attractor (self as a lawyer rather than a doctor). The variable of threat elaboration may represent a control parameter associated with non-linear change in the self-system. Like the old attractor, the newly created attractor state has its own force field that attracts mental and behavioral patterns despite local variations in position created by minor external disturbances (shift in audience or unelaborated feedback).

Re-revisions? Self-Revision theory proposes change of a more enduring nature in self-images in response to fully elaborated feedback. This claim begs the question of just how permanent is permanent. Lovett (1998) has suggested that behavioral choices that would appear to be permanent ultimately drift back to their initial position as the ambient state recovers over the course of time. This temporal pattern of choice characterizes changes in the behavioral patterns of lower order organisms (e.g. the foraging habits of a field mouse) but also organisms at the higher end of the phylogenetic scale. A good illustration of the latter point might be the gang member who lays down the desired self

of becoming the leader of the Mexican Mob for the legitimate desired self of becoming a Mexican restaurant owner. It is worth noting that the creation of the restaurant owner attractor does not replace the old attractor or any other existing attractors. Moreover, the mental repertory (scripts, agendas, etc.) associated with the initial attractor remains even after the creation of the new repertory associated with the new attractor (earning their GED, taking courses in restaurant management, building principal, etc.). These choices to adopt new behavioral patterns may gradually decay over the course of time and cause behavior to drift back to their ambient pre-choice patterns (Lovett, 1998).

Future research should focus on the permanence of choices to revise a self-image. Such programs of research could focus on one of two aspects of this question of permanence. The most basic empirical issue would take a descriptive stance of simply assessing when people who have revised a self-image drift back to their initial self-image without interference. The second empirical issue would be more experimental. What conditions alter the process of intertemporal change and recovery assuming a choice of self-revision does follow this natural pattern? For example, what sorts of factors accelerate or delay the natural recovery of old behavioral choices? One might predict that the eventual recovery of ambient behavioral patterns would be accelerated in cases where the new behavioral patterns are not maintained and reinforced. Traditional experimental methods in conjunction with computer simulation platforms used to model complex dynamical systems can be employed to address questions regarding the time course and permanence of self-revision.

Territory and Limits of Self-Revision Theory

For too long, self and identity researchers have limited their focus to understanding how transient shifts in identity mediate the effects of immediate social or cultural life.

Self-Revision Theory constitutes an attempt to expand the conceptual focus beyond what the self changes to what changes the self. When I say "change", I am not referring to the sense that we became accustomed to after the advent of the working self-concept construct (McGuire & Padawer-Singer, 1968; Schlenker, 1980; Markus & Wurf, 1987). These examinations of how manipulations of the immediate context can lead to changes in mood, self-presentation, self-esteem, and social comparison choices are useful in telling the story of the self (Schlenker, 1980; Markus & Wurf, 1987). This is not the whole story though. The type of change that Self-Revision Theory focuses on is not a temporary, localized, shift in the on-line contents of the working self-concept that immediately regresses back to some identity means of chronically accessible self-schemas once the context changes. In contrast, Self-Revision Theory deals with robust change in the structure or arrangement of *those chronically accessible self-schemas*. Self-revision is change that endures after the context that created it has dissipated.

Of course, the application of Self-Revision Theory is limited to mental structures represented in lexical or semantic meaning units (e.g. beliefs about the self) and ones that are accessible to conscious awareness (e.g. I want to become a lawyer). Self-revision would not be very effective in revising someone's procedural knowledge structure for throwing a fastball. It is worth noting that these mental structures relevant to self-revision processes need not have uniform representation in cognitive meaning units. Indeed, possible selves can have a manifold structure that elaborates the self in imaginal, neural, and motor units as well as verbal units (Markus & Wurf, 1987; Oyserman & Saltz, 1993). Having said that, attempts to revise structures represented *exclusively* in sensorineural, muscular, or visceral symbols would most likely prove futile.

Despite these limits, however, the ability of Self-Revision Theory to change structures that *do* fall within its province of control is limitless. The potential for Self-Revision Theory to understand and create new attractors in the self-system would give us nothing less than the keys to the kingdom of behavioral control. I do not claim that the self is the sovereign determinant of human behavior. The self is only one of multiple systems that operate in parallel fashion to produce behavior. Indeed, some theorists have even questioned the contribution of the self-concept over and above non-self concepts in explanatory models of behavior. I propose that the self is among the most (if not the most) central, organized, and elaborate mental systems that exist. Indeed, the durability of the self-system can be blamed for the popularity of the terminology of temporary and on-line change attached to McGuire's working self-concept. If self-revision theory can be used to induce permanent change in arguably the most unchangeable of all mental structures, it can certainly be applied to change more pliable mental structures.

Summation and Closing Remarks

Scientists are like sailors who must rebuild their boat, plank by plank, not in drydock, but at sea. The process is never finished, but the ship is getting better all the time.

—Otto Neurath (1952)

Empirical findings can be real buggers. They typically support some of the predictions but not others. Moreover, many times they pose as many new questions as they provide answers to old questions. The current findings provide strong support for the first proposition of Self-Revision Theory that threatening feedback must be elaborated if it is to produce self-revision. The data are less kind to the remaining propositions of Self-Revision Theory. Although Study 2 does suggest that identity expectations partially mediate the effect of elaborated threats on desired selves, the full

mediation claim of Hypothesis 2 was not supported. Moreover, the findings of neither study supported the claim of Hypothesis 3, that anxiety mediates the process of self-revision. The prospects for Self-Revision Theory are perhaps captured best in the analogy of the German philosopher Otto Neurath. Self-Revision Theory certainly holds promise but will also undergo revision before it can fully explain the vicissitudes of self.

CONSENT FORM

Please read this consent document carefully before you decide to participate in this study.

In this study I will respond to a series of questions regarding my academic history as well as vocational interests. I understand that I do not have to respond to any questions that I do not wish to answer.

Purpose of Investigation:

The purpose of this survey is to assess how the content of this course affects the career interests and intentions of students.

Time Required:

10 min.

Risks and Benefits:

I will learn about the research process. There is no risk.

Confidentiality:

My responses will be confidential to the fullest extent provided by the law. I will be assigned a code number, and my responses will be stored in a computer according to that code number and not by my name. As such, my name will never be associated with my responses and will not be used in any report. Moreover, all data will be analyzed by group averages and not by individual responses.

Voluntary participation & right to withdraw:

My participation in this study is completely voluntary. There is no penalty for not participating. I have the right to withdraw from the study at any time without consequence.

Whom to contact if I have questions about the study:

Principle Investigator: Patrick J. Carroll, Department of Psychology, University of Florida, 392-0601 x211.

Supervisor: Dr. James A. Shepperd, Department of Psychology, University of Florida, 392-0601 x248.

Whom to contact about my rights as a research participant in the study:

UFIRB office, Box 112250, University of Florida, Gainesville, FL 32611-2250; ph 392-0433.

By signing below I acknowledge that I have read and fully understand the above information and agree to participate in this study.

———————————————————   ——————————

Signature of Research Participant   Date

PARTICIPANT COPY OF CONSENT FORM

Please read this consent document carefully before you decide to participate in this study.

In this study I will respond to a series of questions regarding my academic history as well as vocational interests. I understand that I do not have to respond to any questions that I do not wish to answer.

Purpose of Survey:

The purpose of this survey is to assess how the content of this course affects the career interests and intentions of students.

Time Required:

10 min.

Risks and Benefits:

I will learn about the research process. There is no risk.

Confidentiality:

My responses will be confidential to the fullest extent provided by the law. I will be assigned a code number, and my responses will be stored in a computer according to that code number and not by my name. As such, my name will never be associated with my responses and will not be used in any report. Moreover, all data will be analyzed by group averages and not by individual responses.

Voluntary participation & right to withdraw:

My participation in this study is completely voluntary. There is no penalty for not participating. I have the right to withdraw from the study at any time without consequence.

Whom to contact if I have questions about the study:

Principle Investigator: Patrick J. Carroll, Department of Psychology, University of Florida, 392-0601 x211.

Supervisor: Dr. James A. Shepperd, Department of Psychology, University of Florida, 392-0601 x248.

Whom to contact about my rights as a research participant in the study:

UFIRB office, Box 112250, University of Florida, Gainesville, FL 32611-2250; ph 392-0433.

GRADUATE PREP COURSE SURVEY.

1. What is your current **Upper Division** GPA (i.e., your GPA in the last 60 hours)? If you don't know, estimate to the best of your ability.

A	B	C	D	E
Below 3.0	3.0-3.24	3.25-3.49	3.50-3.74	3.75-4.0

2. What is your GPA in **psychology** courses? If you don't know, estimate to the best of your ability.

A	B	C	D	E
Below 3.0	3.0-3.24	3.25-3.49	3.50-3.74	3.75-4.0

3. Estimate the Upper Division GPA earned by the **typical UF psychology major** applying to psychology graduate school.

A	B	C	D	E
Below 3.0	3.0-3.24	3.25-3.49	3.50-3.74	3.75-4.0

4. Estimate the **psychology** GPA earned by the **typical UF psychology major** applying to psychology graduate school.

A	B	C	D	E
Below 3.0	3.0-3.24	3.25-3.49	3.50-3.74	3.75-4.0

5. How many semesters have you worked as a research assistant?

A	B	C	D	E
1	2	3	4	5

6. Are you an active member of the psychology club?

A = No   B = Yes

Some students apply to three levels of graduate schools: 1) **Top tier** schools that they believe they have only a remote chance of gaining admission, 2) **midrange** schools for which they believe they have a reasonable chance of gaining admission, and c) **fall-back** schools for which they believe they have a very good chance of gaining admission.

7. Given your work experience and academic record, estimate the likelihood that you will be admitted to a psychology masters program *if you apply*.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

8. Given your work experience and academic record, estimate the likelihood that you will be admitted to one of your top tier doctoral programs.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

9. Given your work experience and academic record, estimate the likelihood that you will be admitted to one of your midrange doctoral programs.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

10. Given your work experience and academic record, estimate the likelihood that you will be admitted to one of your fall-back doctoral programs.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

11. Given your work experience and academic record, estimate the likelihood that you will ultimately become a psychologist.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

12. Given your work experience and academic record, estimate the likelihood that you will ultimately work in the area of psychology in which you are most interested.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

13. Estimate the likelihood that the typical UF psychology major applying to psychology graduate school will be admitted to one of his/her midrange doctoral programs.

A	B	C	D	E
0 – 20%	21-40%	41-60%	61-80%	81-100%

14. How important it is for you to get into one of your **top tier** schools?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

15. How important it is for you to get into one of your **midrange** schools?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

16. How important it is for you to get into one of your **fall-back** schools?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

17. How important it is for you to become a psychologist?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

18. How much effort have you invested in preparing yourself for graduate school?

A	B	C	D	E
None	Minimum	Moderate	Considerable	Substantial

19. How much has preparing yourself for graduate school interfered with other priorities in your life?

A	B	C	D	E
Not at all	Minimally	Moderately	Considerably	Substantially

20. How disappointed would you be if you did not get into graduate school?

A	B	C	D	E
Not at all	Minimally	Moderately	Considerably	Substantially

21. How important is it for you to become a psychologist in the area of psychology in which you are most interested.

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

22. How anxious are you about getting into graduate school?

A	B	C	D	E
Not At All Anxious	Somewhat Anxious	Moderately Anxious	Very Anxious	Extremely Anxious

23. Do you have a back-up plan in the event that you are not accepted into a graduate program of your choice?

A = No   B = Yes

Please respond to each item by circling the number that best describes your feelings.

24. I have the personal capabilities to control the events in my life.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

25. I have the personal capabilities to control the events in my life.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

26. Through my personal efforts, I can make any situation come out the way I intend it to.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

POST-INTERVIEW RATING

Last four digits of Interviewers UF ID_____

Rating of Question 1 Performance:
1. How clear do you feel the interviewee was in answering the question regarding their interests in graduate study in psychology?

A	B	C	D	E
Not At All Clear		Somewhat Clear		Very Clear

Rating of Question 2 Performance:
2. How clear do you feel the interviewee was in articulating their expectations of the demands of graduate school?

A	B	C	D	E
Not At All Clear		Somewhat Clear		Very Clear

Rating of Question 3 Performance:
3. How focused do you feel the interviewee was in answering the question regarding their ideal career in psychology?

A	B	C	D	E
Not At All Focused		Somewhat Focused		Very Focused

Rating of Question 4 Performance:
4. How effective do you feel the interviewee was in describing their relevant personal qualifications and experiences?

A	B	C	D	E
Not At All Effective		Somewhat Effective		Very Effective

Rating of Question 5 Performance:
5. How clear do you feel the interviewee was in articulating what they were looking for in a graduate program?

A	B	C	D	E
Not At All		Somewhat		Very

All Clear   Clear   Clear

Only respond to Rating 6 if the interviewee asked a question when provided the opportunity
Rating of Question 6 Performance:
6. How effective do you feel the feel the interviewee's questions were regarding the program of study he/she was applying to?

A	B	C	D	E
Not At All Effective		Somewhat Effective		Very Effective

Ratings of Overall Interview Performance:

7. How articulate was the interviewee throughout the interview?

A	B	C	D	E
Not At All Articulate		Somewhat Articulate		Very Articulate

8. Overall, how prepared do you feel the interviewee was for the interview?

A	B	C	D	E
Not At All Prepared		Somewhat Prepared		Very Prepared

9. How engaged do you feel the interviewee was during the course of the interview?

A	B	C	D	E
Not At All Engaged		Somewhat Engaged		Very Engaged

10. In general, how effective would you rate the interviewee's overall performance during the interview?

A	B	C	D	E
Not At All Effective		Somewhat Effective		Very Effective

Interview Questions:

Interviewers: please call at the designated time, and simply begin by introducing yourself in the following way e.g. "Hi my name is XXXX. I'm calling regarding your interview for graduate study in psychology; do you have a few minutes? OK, we will take about 10 minutes to talk about some of your interests and experiences, and give you a chance to ask any questions that you may have, as well." **Please make sure to ask if the UFID they listed on the sign up sheets correct. Please write <u>the entire number</u> (not just the last four digits that it currently says) on the top of the interviewer rating sheet.**

1. Can you tell me a little bit about your interests in graduate study in psychology?

2. What do you think graduate school will be like? How will it be similar to, or different from, your experience as an undergraduate?

3. License to fantasize: once you complete your program, what, ideally, do you see yourself doing?

4. Talk about any personal qualities or experiences that you have had that you feel would be useful to you in your graduate studies.

5. What kinds of things are you looking for in a graduate program? What would make one program stand out for you as better or stronger, or more appealing?

6. Do you have any questions about our program or anything else that would be helpful for you to know?

CONSENT FORM

Please read this consent document carefully before you decide to participate in this study.

In this study I will respond to a series of questionnaires asking about my thoughts and behaviors related to a career training program . I understand that I do not have to respond to any questions that I do not wish to answer.

Time Required:

50 min.

Risks and Benefits:

I will earn 2 course extra credit points and will learn about the research process. There is no risk.

Confidentiality:

My responses will be confidential to the fullest extent provided by the law. I will be assigned a code number, and my responses will be stored in a computer according to that code number and not by my name. As such, my name will never be associated with my responses and will not be used in any report. Moreover, all data will be analyzed by group averages and not by individual responses.

Voluntary participation & right to withdraw:

My participation in this study is completely voluntary. There is no penalty for not participating. I have the right to withdraw from the study at any time without consequence. Moreover, I will receive a credit regardless of whether I choose to participate.

Release of Information:

Part of this study involves examination of academic performance. By signing below you are authorizing Dr. James Shepperd of the psychology department to access to your academic record for research purposes. This information will be kept strictly confidential.

Whom to contact if I have questions about the study:

Principle Investigator: Pat Carroll, Department of Psychology, University of Florida, 392-0601 x211.

Supervisor: Dr. James A. Shepperd, Department of Psychology, University of Florida, 392-0601 x248.

Whom to contact about my rights as a research participant in the study:

UFIRB office, Box 112250, University of Florida, Gainesville, FL 32611-2250; ph 392-0433.

By signing below I agree to participate in this study and I authorize Dr. James Shepperd of the psychology department to access my academic records.

_____   _____

Signature of Research Participant   Date

PARTICIPANT COPY OF INFORMED CONSENT FORM

Please read this consent document carefully before you decide to participate in this study.

In this study I will respond to a series of questionnaires asking about my thoughts and behaviors related to a career training program . I understand that I do not have to respond to any questions that I do not wish to answer.

Time Required:

50 min.

Risks and Benefits:

I will earn 2 course extra credit points and will learn about the research process. There is no risk.

Confidentiality:

My responses will be confidential to the fullest extent provided by the law. I will be assigned a code number, and my responses will be stored in a computer according to that code number and not by my name. As such, my name will never be associated with my responses and will not be used in any report. Moreover, all data will be analyzed by group averages and not by individual responses.

Voluntary participation & right to withdraw:

My participation in this study is completely voluntary. There is no penalty for not participating. I have the right to withdraw from the study at any time without consequence. Moreover, I will receive a credit regardless of whether I choose to participate.

Release of Information:

Part of this study involves examination of academic performance. By signing below you are authorizing Dr. James Shepperd of the psychology department to access to your academic record for research purposes. This information will be kept strictly confidential.

Whom to contact if I have questions about the study:

Principle Investigator: Pat Carroll, Department of Psychology, University of Florida, 392-0601 x211.

Supervisor: Dr. James A. Shepperd, Department of Psychology, University of Florida, 392-0601 x248.

Whom to contact about my rights as a research participant in the study:

UFIRB office, Box 112250, University of Florida, Gainesville, FL 32611-2250; ph 392-0433.

DEBRIEFING

Sometimes in research it is necessary to use deception. We can't always reveal the experimental purpose because:

1. It might affect our results--If we tell people the purpose or predictions of the experiment, they may deliberately do whatever it is they think we want them to do, just to help us out. It is also possible that if we tell people our predictions, they might deliberately act in the opposite direction to show us that we can't figure them out. In either situation, we would not have a good indication of people would normally act.

2. Deception is not necessary in an experiment. For example, in a study of learning, if you want people to learn something, you would want them to know exactly what material they needed to learn.

3. Do you understand why it might sometimes be necessary to conceal the real purpose of an experiment?

4. We have not been frank about the real purpose of this experiment. Indeed, there is more to it than what we have told you. Do you have any idea what the purpose and predictions of our study were?

5. In this study, we are actually examining how information challenges impact the stability of possible self-conceptions through subjective predictions. The masters program in business management psychology we have described to you is completely fictitious. Moreover, the eligibility requirements were completely fictitious and in no way indicate your actual eligibility for any other professional training program.

By signing below, I acknowledge that I have read the above material on the true purpose of the study and that deception was used in this study and I still agree to allow the principal investigator to use my data.

_____   _____

Research Participant   Date

PARTICIPANT COPY OF DEBRIEFING

Sometimes in research it is necessary to use deception. We can't always reveal the experimental purpose because:

6. It might affect our results--If we tell people the purpose or predictions of the experiment, they may deliberately do whatever it is they think we want them to do, just to help us out. It is also possible that if we tell people our predictions, they might deliberately act in the opposite direction to show us that we can't figure them out. In either situation, we would not have a good indication of people would normally act.

7. Deception is not necessary in an experiment. For example, in a study of learning, if you want people to learn something, you would want them to know exactly what material they needed to learn.

8. Do you understand why it might sometimes be necessary to conceal the real purpose of an experiment?

9. We have not been frank about the real purpose of this experiment. Indeed, there is more to it than what we have told you. Do you have any idea what the purpose and predictions of our study were?

10. In this study, we are actually examining how information challenges impact the stability of possible self-conceptions through subjective predictions. The masters program in business management psychology we have described to you is completely fictitious. Moreover, the eligibility requirements were completely fictitious and in no way indicate your actual eligibility for any other professional training program.

Reitz Union Study
Summer 2004

Subject:_____

Gender:_____

Control (0) / Low Elaboration (1)/ Partial Elaboration (2)/Full Elaboration(3):_____

_____

Please circle the number corresponding to the extent to which you agree/disagree with the following statements.

1. The participant found the experimental procedures believable.

1	2	3	4	5	6	7
Strongly			Somewhat			Strongly
Disagree			Agree			Agree

2. I would recommend retaining this participant's data.

1	2	3	4	5	6	7
Strongly			Somewhat			Strongly
Disagree			Agree			Agree

Additional Comments:

_____

_____

_____

_____

_____

_____

_____

_____Name & Date_____

Career Vocation Inventory

1) Age _____

2) Sex: (0) Male (1) Female

3) Major _____

4) Classification:

   (0) Freshman (1) Sophomore
   (2) Junior (3) Senior (4) Other

5) What do you plan to do after graduating with your Bachelors degree?

   _____

6) Do you intend to apply the MBP program?

1   2 3 4 5 6 7
Definitely   Definitely
Not

7) Are you considering applying to the MPB program?

1   2 3 4   5 6 7
Not at All   Undecided   Seriously
Considering   Considering

8) If undecided, please circle the option that best reflects the reason why

(0)I need more information on the MBP program
(1) I have other career goals
(2) I have other graduate training goals in psychology
(3) I have other graduate training goals
(4) Other (please fill in the blank)

--

Grade point averages (GPAs) range from 0.00 to 4.00. Please provide an exact number, not a range, for the following GPA estimates. If you don't know,

estimate to the best of your ability. Please round to the nearest hundredth of a point.

9) Estimate, to the best of your ability, the average GPA of all incoming degree students in all areas of psychology?

   _____GPA

11. What is your current **Cumulative** GPA (i.e. your GPA you have accumulated thus far as a college student).

   _____ GPA

12. On how many hours is this GPA based? If you are a first semester student with no prior college course work, then place "0" in the space provided.
   _____ Hours

13. What is your **Upper Division** GPA (i.e., your GPA in the last 60 hours)?
   _____ GPA

14. What is your GPA in **psychology** courses?

   _____ GPA

15. How many semesters have you worked as a research assistant?

0   1   2   3   4   5
16. Are you an active member of the psychology club?

   A = Yes   B = No

The following likelihood estimates can fall anywhere between 0 (very unlikely) to 100% (very likely). For all estimates,

please provide an exact number not a range.

17. Given your work experience and academic record, estimate the likelihood that you will be admitted to the masters in business psychology (MBP) program *if you apply*.

_____

18. Given your work experience and academic record, estimate the likelihood that you will be admitted to a traditional graduate psychology program *if you apply*.

_____

19. Given your work experience and academic record, estimate the likelihood that you will ultimately become a business psychologist.

_____

20. Given your work experience and academic record, estimate the likelihood that you will ultimately work in some area of psychology.

_____

21. Estimate the likelihood that the typical UF psychology major will be admitted to the MBP program *if they apply*.

_____

22. How important is it for you to have the option to go into the **MBP** program?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

23. How important it is for you to actually get into the **MBP** program?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

24. How important it is for you to get into some graduate program in psychology?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

25. How important it is for you to work in some field of psychology?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

26. How much effort would you be willing to invest in preparing yourself for the **MBP** program?

A	B	C	D	E
None	Minimum	Moderate	Considerable	Substantial

27. How much effort would you be willing to invest in order to complete the **MBP** program if you got in?

A	B	C	D	E
None	Minimum	Moderate	Considerable	Substantial

28. How anxious are you about your career future after graduation?

A	B	C	D	E
Not At All Anxious	Somewhat Anxious	Moderately Anxious	Very Anxious	Extremely Anxious

29. How anxious are you about your eligibility for the **MBP** program?

A	B	C	D	E
Not At All Anxious	Somewhat Anxious	Moderately Anxious	Very Anxious	Extremely Anxious

Please respond to each item by circling the number that best describes your feelings.

30. I have the ability to achieve any goal I set for myself.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

31. I am surprised when things turn out the way I want.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

32. When I apply myself to a task, I am certain to accomplish it.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

33. I often find myself in situations where my own efforts aren't enough to produce good results.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

34. When I'm called upon to do something, I feel confident in my ability to get the job done.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

35. I have the ability to control events in my life.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

36. I do not feel confident in my ability to get what I want out of life.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

37. Through my personal efforts, I can make any situation come out the way I intend it to.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

38. I can organize my skills to deal effectively with any situation.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

39. I don't have the personal resources to control events in my life.

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

40. Its easy for me to reduce my effort toward goals

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

41. Its easy for me to stop thinking about goals and let go

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

42. I find it difficult to stop trying to achieve the goal

A	B	C	D	E
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

Exit Inventory:

1. How beneficial has this session been in helping you think about what future career you would like to have?

A	B	C	D	E
Not At All Beneficial	Somewhat Beneficial	Moderately Beneficial	Very Beneficial	Extremely Beneficial

2. Having learned more about the program, are you planning on applying to the MBP program?

1		2	3	4	5	6		7
Definitely Not								Definitely

3. Having learned more about the program, are you considering applying to the MBP program?

1		2	3		4		5	6		7
Not at All Considering					Undecided					Seriously Considering

4. If undecided, please circle the option that best reflects the reason why

   A) I need more information on the BPM program
   B) I have other career goals
   C) I have other graduate training goals in psychology
   D) I have other graduate training goals
   E) Other (please fill in the blank)_____

The following likelihood estimates can fall anywhere between 0 (very unlikely) to 100% (very likely). For all estimates, please provide an exact number not a range.

5. Given your work experience and academic record, estimate the likelihood that you will be admitted to the MBP program *if you apply*.
   _____

6. Given your work experience and academic record, estimate the likelihood that you will be admitted to a traditional psychology masters program *if you apply*.
   _____

7. Given your work experience and academic record, estimate the likelihood that you will ultimately become a business psychologist.
   _____

8. Given your work experience and academic record, estimate the likelihood that you will ultimately work in some area of psychology.
   _____

9. Estimate the likelihood that the typical UF psychology major will be admitted to the MBP masters program *if they apply*.
   _____

10. Estimate the likelihood that you will apply to the MBP program.
   _____

11. How important is it for you to have the option to go into the **MBP** masters program?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

12. How important it is for you to actually get into the **MBP** masters program?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

13. How anxious are you about your career future after graduation?

A	B	C	D	E
Not At All Anxious	Somewhat Anxious	Moderately Anxious	Very Anxious	Extremely Anxious

14. How anxious are you about your eligibility for the **MBP** masters program?

A	B	C	D	E
Not At All Anxious	Somewhat Anxious	Moderately Anxious	Very Anxious	Extremely Anxious

15. How important it is for you to get into some graduate program in psychology?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

16. How important it is for you to work in some field of psychology?

A	B	C	D	E
Not At All Important	Somewhat Important	Moderately Important	Very Important	Extremely Important

17. How much effort would you be willing to invest in preparing yourself for the **MBP** masters program?

A	B	C	D	E
None	Minimum	Moderate	Considerable	Substantial

18. How much effort would you be willing to invest in order to complete the **MBP** masters program if you got in?

A	B	C	D	E
None	Minimum	Moderate	Considerable	Substantial

LIST OF REFERENCES

Albarracin, D., Wallace, H., & Glassman (2003). In M.P. Zanna (Ed.,). *Advances in Experimental Social Psychology* (Vol. 36). San Diego, CA: Academic Press.

Baumeister, R.F., Heatherton, T.F., & Tice, D.M. (1993). When ego threats lead to self regulation failure: Negative consequences of high self-esteem. *Journal of Personality and Social Psychology, 64,* 141-156.

Cantor, N., & Fleeson, W. (1991). Life tasks and self-regulatory processes. *Advances in Motivation and Achievement, 7,* 327-369.

Carver, C. & Schier, M. (1982). Control theory: A useful conceptual framework for Personality-Social, Clinical, and Health Psychology. *Psychological Bulletin, 92,* (1), 111-135.

Collins, R. B. (1996). For better or worse: The impact of upward social comparisons on self-evaluations. *Psychological Bulletin, 119,* 51-69.

Craik, F.I.M., & Lockhart, R.S. (1972). Levels of Processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior, 11,* 671-684.

Epstein, S. (1973). The self-concept revisited, or a theory of a theory. *American Psychologist, 28,* 404-416.

Erikson, E.H. (1959). Identity and the life cycle: Selected papers. *Psychological Issues, 1,* 5-165.

Gilbert, D. (1991). How mental systems believe. *American Psychologist, 46,* 107-119.

Goffman, E. (1959). *The presentation of self in everyday life.* Garden City, NY: Doubleday.

Greenwald, A. G. (1980). The totalitarian ego: Fabrication and revision of personal history. *American Psychologist, 35,* 603-618.

Gregory, W.L., Cialdini, R.B., & Carpenter, K.M. (1982). Self-relevant scenarios as mediators of likelihood estimates and compliance: Does imagining make it so? *Journal of Personality and Social Psychology, 43,* 89-99.

Gregory, W.L., Burroughs, W.J., & Ainslie, F.M. (1985). Self-relevant scenarios as an indirect means of attitude change. *Personality and Social Psychology Bulletin*, *11*, 435-444.

Johnson, S.L. & Nowak, A (2002). Dynamical patterns in bipolar depression. *Personality and Social Psychology Review*, *6*, 380-387.

Jones, E.E. & Berglas, S. (1978). Control of attributions about the self through self-handicapping strategies: The appeal of alcohol and the role of underachievement. *Personality and Social Psychology Bulletin*, *4*, 200-206.

Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review*, *82*, 1-25.

Kuhl, J., & Helle, P. (1986). Motivational determinants of depression: The degenerated intention hypothesis. *Journal of Abnormal Psychology*, *95*, 247-251.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*, 480-498.

Kuo, Z.Y. (1967). *The dynamics of behavior development: An epigenetic view.* New York: Random House.

Kelso, J.A. (1995). *Dynamics patterns. The self-organization of brain and behavior.* Cambridge, MA: MIT Press.

Lovett, M. (1998). Choice. In J. Anderson and C. Lebiere (Ed.), *Atomic Components of Thought.* San Diego, CA: Academic Press.

Markus, H., & Kunda, Z.(1986). The stability and malleability of the self-concept, *Journal of Personality & Social Psychology*, *51*, 858-866.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*, 954-969.

Markus, H., & Ruvolo, A. (1989). Possible selves: Personalized representations of goals. In L.S. Pervin (Ed.). *Goal concepts in personality and social psychology* (pp. 211-241). Hillsdale, NJ: Erlbaum.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological Perspective. *Annual Review of Psychology*, *38*, 299-337.

McAdams, D.P. (1993). *The stories we live by: Personal myths and the making of the self.* New York: William Morrow.

McGuire, W., & Padawer-Singer, A.(1976). Trait salience in the spontaneous self-concept. *Journal of Personality and Social Psychology*, *33*, 743-754.

Mellers, B. & McGraw, P. (2001). Anticipated emotions as guides to choice. *Pychological Science*, *10*, 210-214.

Newby-Clark, I.R. & Ross, M. (2003). Conceiving of the past and future. *Personality and Social Psychology Bulletin*, *29*, 807-818.

Neurath, O. (1952). *Foundations of Social Sciences (International Encyclopedia of Unified Sciences)*. University of Chicago Press.

Oelson, K.C., Poehlmann, K.M., Yost, J.H., Lynch, M.E., & Arkin, R.M. (2000). Subjective overachievement: Individual differences in self-doubt and concern with performance. *Journal of Personality*, *68*, 491-524.

Oettingen, G., Pak, H., & Schnetter, K. (2001). Self-regulation of goal setting: Turning free fantasies about the future into binding goals. *Journal of Personality and Social Psychology*, *80*, 736-753.

Oyserman, D., & Saltz.(1993). Competence, delinquency, and attempts to attain possible selves. *Journal of Personality and Social Psychology*, *65*, 360-374.

Polivy, J., & Herman, P.C. (2002). If at first you don't succeed: False hopes of self-change. *American Psychologist*, *57*, 677-689.

Rogers, R.W. (1983). Cognitive and physiological processes in fear appeals and attitude change: A revised theory of protection motivation. In J. Cacioppo & R. Petty (Eds.), *Social Psychophysiology*. New York: Guilford Press.

Robinson, M.D. & Ryff, C.D. (1999). The role of self-deception in perceptions of past, present, and future happiness. *Personality and Social Psychology Bulletin*, *25*, 595-606.

Ruvolo, A.P. & Markus, H.R. (1992). Possible selves and performance: The power of self-relevant imagery. *Social Cognition*, *10*, 95-124.

Schlenker, B.R. (1980). *Impression management: The self-concept, social identity, and interpersonal relations*. Monterey, CA: Brooks/Cole.

Shepperd, J. A. (1993). Student derogation of the scholastic aptitude test: Biases in perceptions and presentations of college board scores. *Basic and Applied Social Psychology*, *14*, 455-473.

Shepperd, J. A., Ouellete, J. A., & Fernandez, J. K. (1996). Abandoning unrealistic optimism: Performance estimates and the temporal proximity of self-relevant feedback. *Journal of Personality and Social Psychology*, *70*, 844-855.

Taylor, K.M., & Shepperd, J.A. (1998). Bracing for the worst: Severity, testing, and feedback timing as moderators of the optimistic bias. *Personality and Social Psychology Bulletin*, *24*, 915-926.

Thagard, P. & Nerb, J. (2002). Emotional gestalts: Appraisal, change, and the dynamics of affect. *Personality and Social Psychology Review, 6,* 380-387.

BIOGRAPHICAL SKETCH

Patrick James Carroll was born in Austin, Texas on June 2, 1973. At the age 3, he moved to Corpus Christi, Texas where he remained until he graduated high school. He graduated from Richard King High School in Corpus Christi in 1991. As an undergraduate, he attended the University of Texas at Austin, where he graduated in 1997 with a major in psychology. At the University of Florida, Patrick completed his master's degree in psychology in 2002, and his Ph.D. in psychology in 2004, specializing in self and identity processes. Patrick was awarded a postdoctoral fellowship through the National Institute of Mental Health at Ohio State University for the next 2 years following graduation, after which he will seek employment at an academic institution.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.
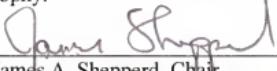
James A. Shepperd, Chair
Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.
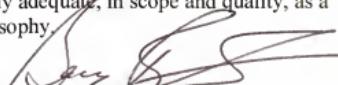
Barry R. Schlenker
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.
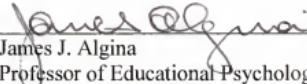
James J. Algina
Professor of Educational Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.
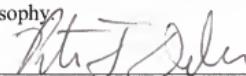
Peter F. Delaney
Assistant Professor of Psychology

This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 2004

Dean, Graduate School